

Tampa Construction Specifications
Contract 26-C-00018; Gunlock Pump Station Force Main Replacement

CITY OF TAMPA, FLORIDA

PLANS FOR

Contract 26-C-00018 Gunlock Pump Station Force Main Replacement

These Plans for the referenced projects come from uncontrolled sources and do not conform to WCAG 2.1 at level AA. Individuals with disabilities seeking assistance with the individual project plans or specifications should e-mail Contractadministration@tampagov.net.

City of Tampa

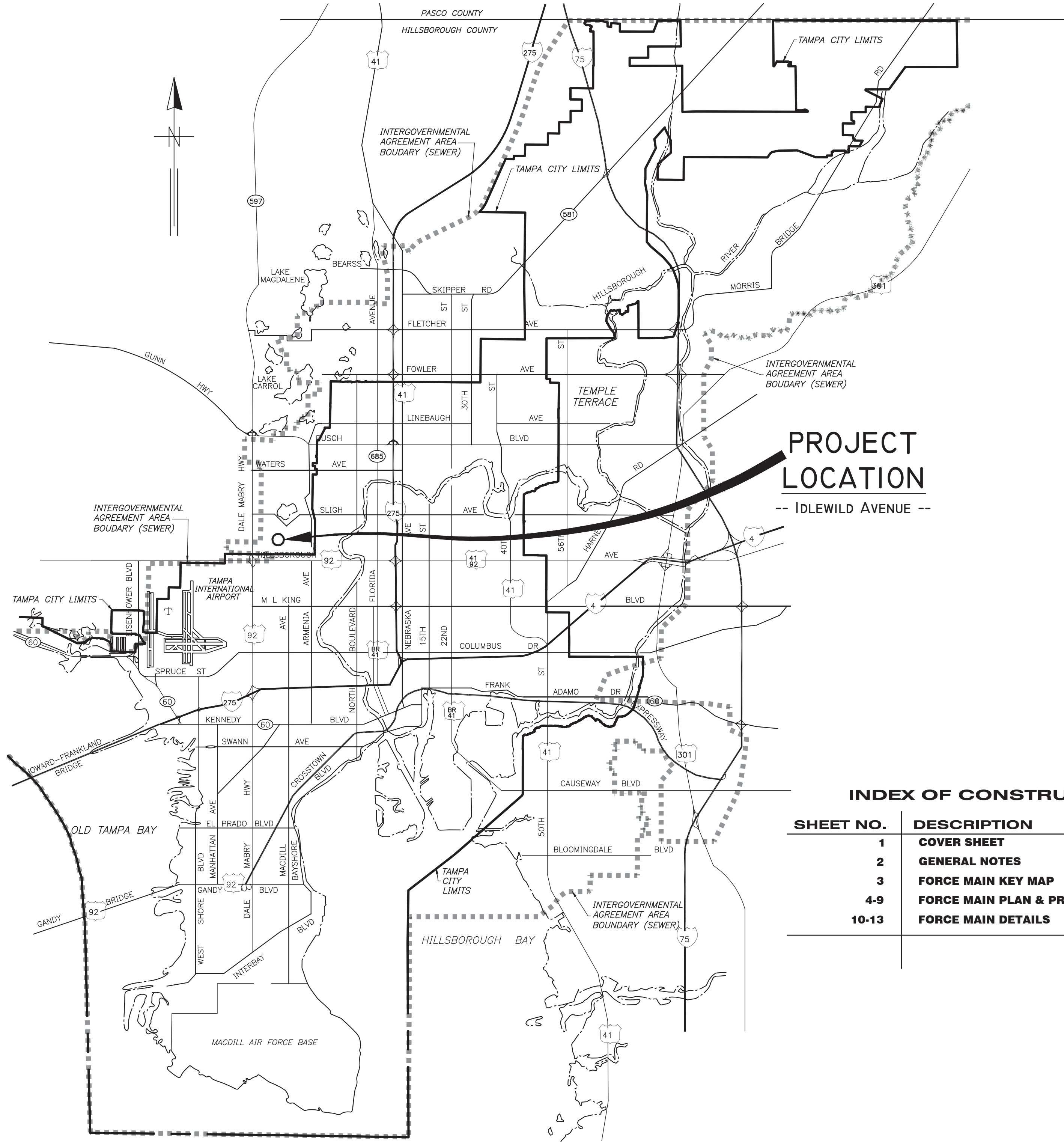
Contract Administration Department

Tampa Municipal Office Building

306 E Jackson Street #280A4N Fourth Floor

Tampa, Florida 33602

OCTOBER 2026

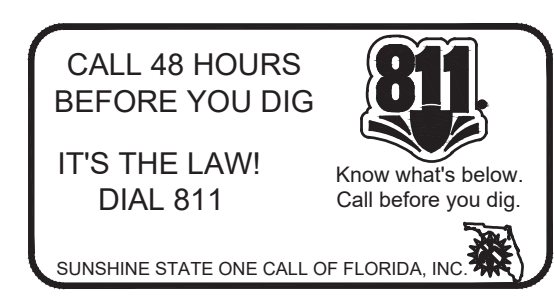


PROJECT
LOCATION
-- IDLEWILD AVENUE --

INDEX OF CONSTRUCTION PLANS

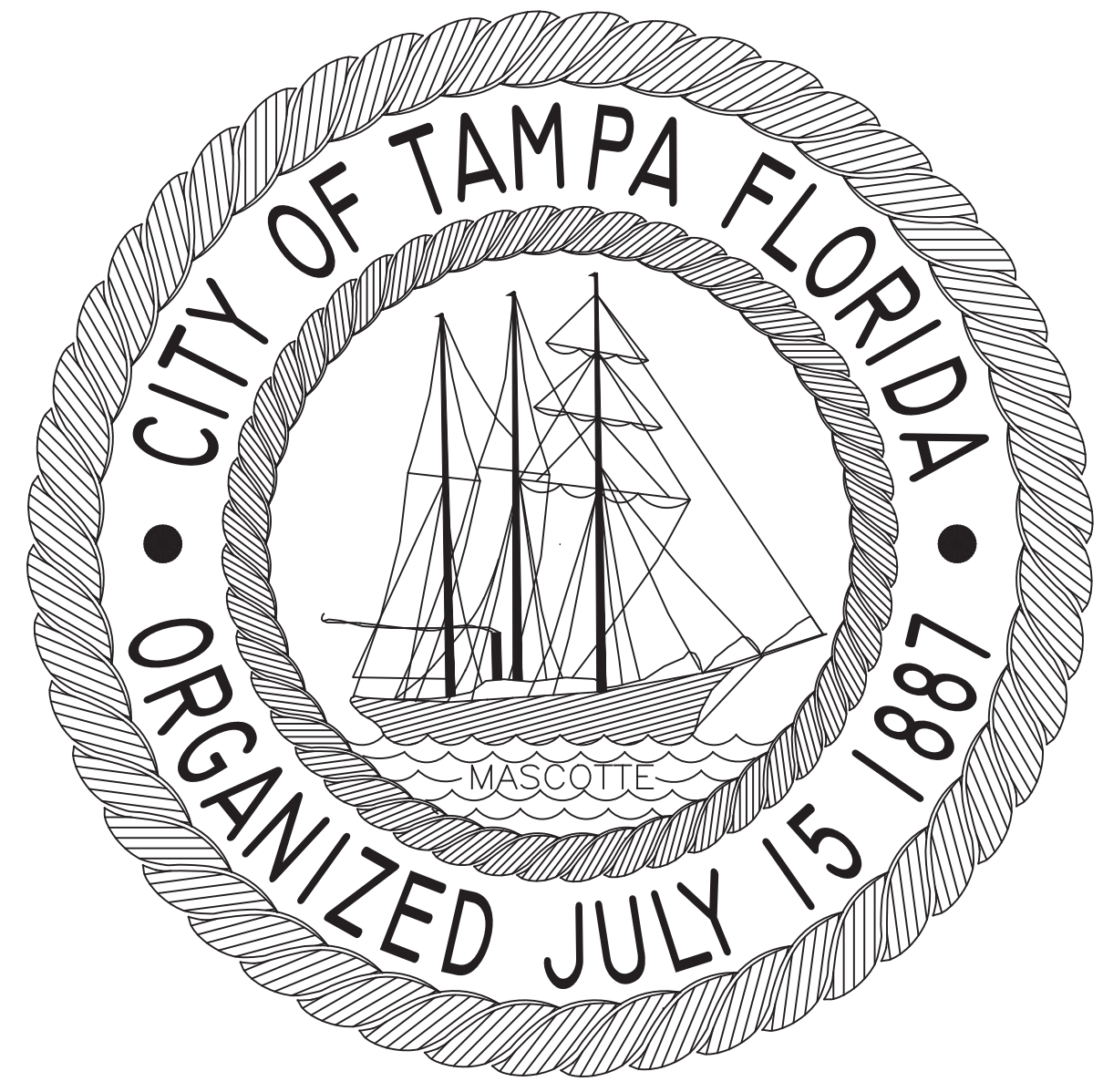
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	FORCE MAIN KEY MAP
4-9	FORCE MAIN PLAN & PROFILE
10-13	FORCE MAIN DETAILS

NOTE:
ATTENTION IS DIRECTED TO THE FACT THAT
THESE PLANS MAY HAVE BEEN REDUCED IN
SIZE BY REPRODUCTION. THIS MUST BE
CONSIDERED WHEN OBTAINING SCALED DATA.



GAS MAIN IN CONSTRUCTION AREA

CITY of TAMPA

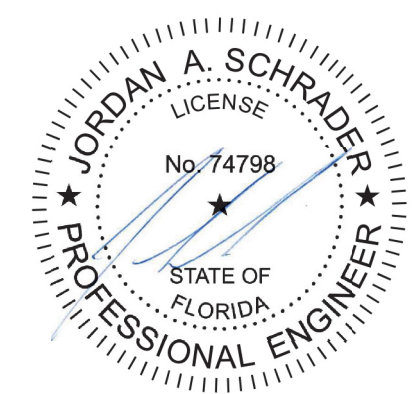


WASTEWATER DEPARTMENT

PLANS FOR
GUNLOCK FORCE MAIN
REPLACEMENT

CONTRACT No.
26-C-00018
08-14-2026

Jordan A. Schrader 2026.08.18
08:43:08-04'00"



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Signature must be verified on any electronic copies.

#	DATE	REVISIONS	#	DATE	REVISIONS	DES: --	CITY of TAMPA WASTEWATER DEPARTMENT	GUNLOCK FORCE MAIN REPLACEMENT COVER SHEET	SHEET 1
1			4			DRN: --			
2			5			CKD: --			
3			6			DATE: --			

IDLEWILD AVENUE TEST HOLE DATA											
Test Hole	UAO	Type	Quantity	Size (in.)	Material	Ground Cover	Ground Elevation (ft.)	Depth to Top (ft.)	Utility Elevation (ft.)	Northing (ft.)	Easting (ft.)
TH 1	Frontier	Telephone	2	4	PVC	NG	30.245	2.93	27.315	1333657.852	494819.223
TH 2	TECO	Gas	1	Unkown	Steel	NG	30.489	8.39	22.099	1333649.678	494815.169
TH 3	TECO	Unkown	1	0.25	Plastic	NG	30.499	2.40	28.099	1333650.978	494815.976
TH 4	TECO	Electric	1	2	PVC	NG	40.009	3.60	36.409	1333587.511	496405.689
TH 5	TECO	Electric	1	2	PVC	NG	39.448	2.49	36.958	1333585.926	496574.180
TH 6	Frontier	Fiber Optic	1	1.25	Polyethylene	NG	39.490	3.07	36.420	1333584.967	496706.617
TH 7	TECO	Electric	1	4	PVC	NG	38.660	2.45	36.210	1333582.887	496932.889
TH 8	Hills. Co.	Water	1	8	Cast Iron	NG	38.029	2.89	35.139	1333573.344	497150.595
TH 9	Hills. Co.	Water	1	1.25/1.5	Polyethylene	Concrete	37.780	2.44	35.340	1333647.618	497192.093
TH 10	Hills. Co.	Forcemain	1	6	Cast Iron	NG	38.240	4.16	34.080	1333611.108	495817.431
TH 11	Hills. Co.	Forcemain	1	6	Ductile Iron	NG	38.226	3.92	34.306	1333607.651	495817.880
TH 12	Charter	Fiber Optic	1	2	Polyethylene	NG	38.459	1.76	36.699	1333609.010	495829.146
TH 13	TECO	Electric	1	2	PVC	NG	38.527	2.27	36.257	1333599.365	495841.745
TH 14	Frontier	Fiber Optic	1	1.5	Polyethylene	NG	38.466	5.60	32.866	1333598.330	495843.404
TH 15	Hills. Co.	Water	1	8	Ductile Iron	NG	38.329	3.09	35.239	1333596.558	495887.018
TH 16	Frontier	Fiber Optic	1	2	Polyethylene	NG	38.170	2.57	35.600	1333609.280	495893.535

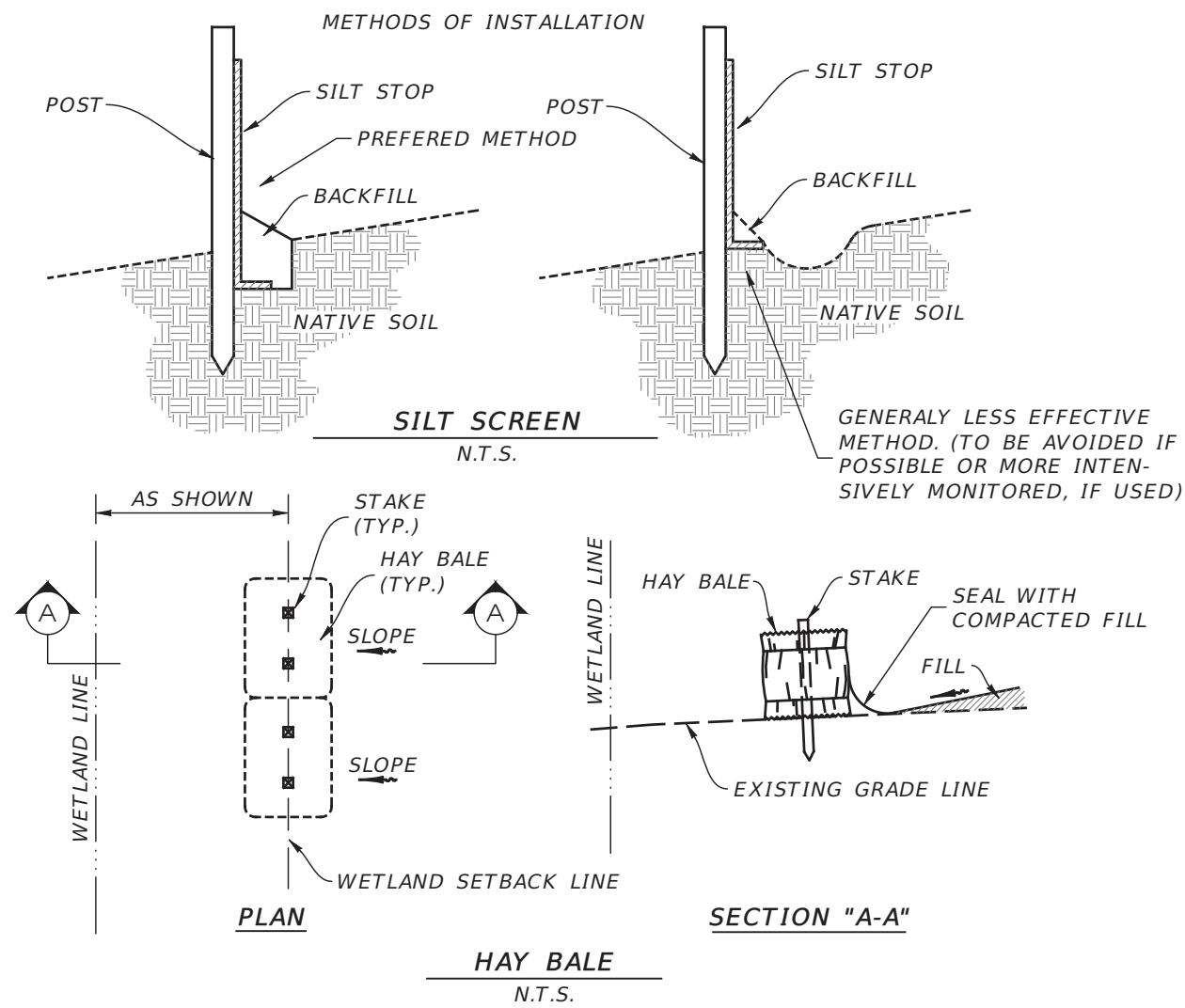
CITY OF TAMPA
SUBDIVISION AND PUBLIC RIGHT-OF-WAY OR EASEMENT WITH PVC FORCE MAIN & NO SERVICE LATERALS

FORCE MAIN CONSTRUCTION NOTES

- All utility work shall conform with City of Tampa Wastewater Department Technical Standards Guideline, July 2014, Version 6.
- Pipeline installation by Horizontal Directional Drill (HDD) shall be in accordance with City of Tampa Wastewater Department Technical Standards Guideline, Section 2.4.
- At least 3 weeks prior to construction, the Developer's Representative shall notify the Resident Engineer and the City of Tampa Department of Sanitary Sewers Field Engineering Office (813-242-5363) and supply them with all required shop drawings, the Contractor's name, starting date schedule, and other information as required. The Field Engineer Office should also be contacted 5 days prior to construction to ensure availability of inspection personnel. Any work performed prior to notifying Field Engineering or without a department inspector present may be subject to removal and replacement.
- The Contractor shall perform an infiltration/exfiltration test on all gravity sewers and a pressure test on all force mains (as applicable) in accordance with City of Tampa Regulations. Said tests are to be certified by the Engineer of Record and submitted to the City of Tampa Department of Sanitary Sewers for approval. The scheduling, coordination and notification of all parties is the Contractor's responsibility.
- Baseline stationing for force main construction generally follows the centerline alignment of Idlewild Avenue, beginning at a point of tangency at STA 113+25.91 and continuing easterly until its departure therefrom at the point of curvature at the easterly side of Idlewild Avenue at STA 135+27.11. In addition, the centerline traverse of the proposed force main is stationed from the Burke Lift Station to the Gunlock Lift Station.
- Elevations refer to North American Vertical Datum of 1988 (NAVD88).
- At no time should vertical clearance between any crossing utilities be less than 18" at crossing of same.
- At no time should horizontal clearance between any sewer utilities and water mains be less than 10' when paralleling each other.
- PVC Force mains shall be installed in accordance with the City of Tampa Department of Sanitary Sewers' PVC Force Main Fact Sheet. 4 inch through 12 inch PVC force mains shall meet the minimum standards of AWWA C900, DR-18 (Class 150).
- All Force main fittings shall be restrained.
- PVC Force main shall be colored green.
- PVC joints shall have integral Bell push on joints conforming to ASTM D3139.
- PVC fittings shall be gasketed push on type. Sizes 4 inch through 8 inch shall be molded in accordance with AWWA C907. PVC fittings larger than 8 inch shall conform with AWWA C900/905. Joint deflection of PVC fitting is not allowed.
- Joint restraint devices for PVC pipe and fittings shall meet Uni-Bell specification - UNI-B-13.
- Pipe bending of PVC pipe shall not be allowed.
- All PVC force mains shall have a metallic locating wire (14 gauge cooper) buried directly above the centerline of the (See detail for additional specification).
- Installation of PVC force main shall generally conform with AWWA C605 unless otherwise approved by the City of Tampa or Engineer of Record.
- Force main shall maintain an 18" minimum clearance from any crossing utility.
- One or more of the following certificates/shop drawings, depending on the type of connection, will be required. This should be reviewed with the Design Division prior to approval for construction and submitted in accordance with the above Note #1.
 - PVC/DIP certificate of manufacture.
 - Manhole shop drawings and strength report.
 - Frame and cover shop drawings.
 - PVC rigid coupling shop drawings.
 - Casing pipe certificate.
 - Jacking pit detail.
 - Crushed stone submittal.
 - Valve shop drawing.
 - Manhole drop connection detail.
 - Horizontal Directional Drill Bore Plan
- Unless otherwise noted above, all construction materials, testing and workmanship shall be in accordance with City of Tampa Wastewater Department Technical Standards Guideline, latest edition at the time of plans approval.
- All subsurface construction shall comply with the "Trench Safety Act." The Contractor shall ensure that the method of trench protection and construction is in compliance with the Occupational Safety and Health Administration (OSHA) regulations.
- Grass and mulch, or solid sod, all areas in existing rights-of-way disturbed by construction.
- Contractor shall contact the engineer and/or the City prior to any construction activity that may damage trees.
- The field-surveyed or reported locations of all existing underground and above-ground utilities known to exist at the time of plans production have been depicted hereon, however conflicts between existing and proposed utilities shall be brought to the attention of the Engineer of Record immediately.

CITY OF TAMPA GENERAL NOTES

- All elevations are based on NAVD 88 vertical datum. Verify location and depth of all pertinent utilities prior to construction. Notify utility companies at least 48 hours before beginning construction.
- All force mains located in the right-of-way shall be constructed of C-900, DR-18, green PVC for force mains.
- The minimum clearance between the proposed force main and all crossing utilities shall be 18 inches, unless noted otherwise. The contractor shall verify the depth and location of all crossing utilities prior to starting installation by directional drill.
- All force mains installed by directional drill shall be constructed of C-900, DR-18, green PVC pipe with "Certa-Lok" or fusible joints. Contractor to provide bore logs to document the pipe's horizontal location by station/offset and pipe depth at a maximum 15 foot intervals.
- The force main shall be installed with a metallic locating wire in accordance with the City's PVC Pipe Locating Wire Detail.
- All force main bends, fittings, and valves shall have restrained mechanical joints as manufactured by "Mega-lug", or approved equal. Additional pipe joints upstream and downstream of each fitting, bend, or valve shall also be restrained in accordance with the City's standard pipe joint restraint table included in the plan set.
- All ductile iron fittings and bends shall be in accordance with AWWA C-110 or C-153, wrapped with green polywarp, and lined with Protecto 401 interior lining.
- Plug valves shall be Dezurik 100% PEF valves.
- The force main shall be constructed in a straight alignment between the specified points of horizontal and vertical deflection. There shall be no intermediate high or low points between the vertical points of deflection. Air release valves shall be installed at all high points specified on the plans. Final location of the air release valve shall be adjusted so that it is located at the actual high point of the completed installation
- The force main shall be installed using "Class C" bedding unless otherwise specified.
- Contractor shall replace all removed or damaged shrubbery, landscaping, irrigation pipes, valves and components to pre-existing condition or better, at no additional cost.
- Right-of-way shall be restored to pre-existing conditions or better. Pavement restoration shall be in accordance with Hillsborough County's Utility Accommodation Guides (UAG), latest version.



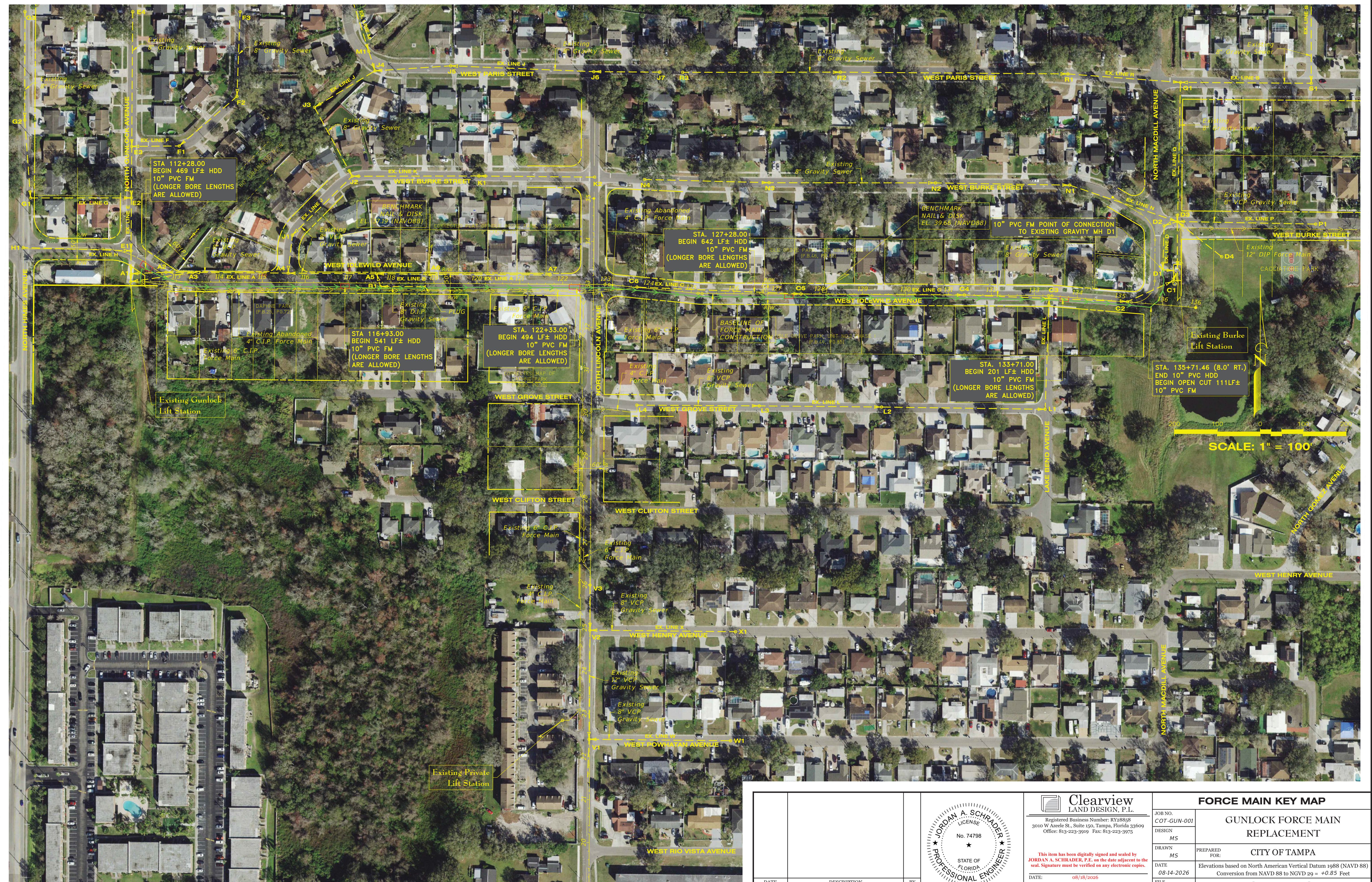
EROSION CONTROL DETAILS

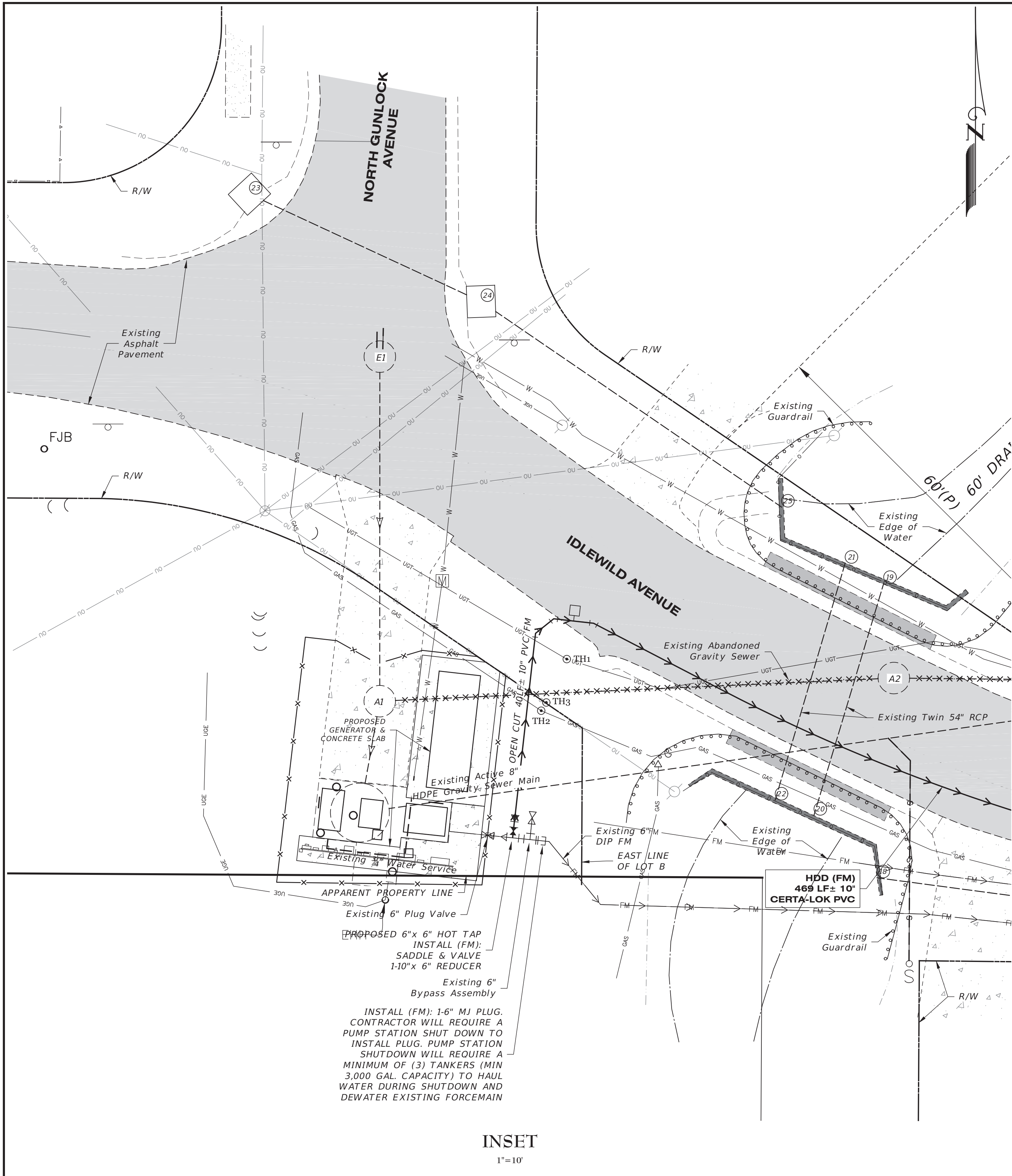
EITHER METHOD OR A COMBINATION
OF BOTH IS ACCEPTABLE

NOTE:

THE EROSION BARRIERS, AS SHOWN, ARE NOT TO BE CONSTRUED TO MEAN THAT THEY ARE ALL THAT MAY BE REQUIRED. THE CONTRACTOR IS TO TAKE WHATEVER MEASURES NECESSARY TO CONTROL EROSION THROUGHOUT THE PROJECT.

				 Registered Business Number: RY28858 3010 W Azule St., Suite 150, Tampa, Florida 33609 Office: 813-223-3919 Fax: 813-223-3975 <i>This item has been digitally signed and sealed by JORDAN A. SCHRADER, P.E. on the date adjacent to the seal. Signature must be verified on any electronic copies.</i> DATE: 08/18/2026 JORDAN A. SCHRADER, P.E. NO. 74798 FLORIDA PROFESSIONAL ENGINEER		GENERAL NOTES							
				JOB NO. <i>COT-GUN-001</i>		GUNLOCK FORCE MAIN REPLACEMENT							
				DESIGN <i>MS</i>									
				DRAWN <i>MS</i>		PREPARED FOR:		CITY OF TAMPA					
				DATE <i>08-14-2026</i>		Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.85 Feet							
				FILE <i>GN</i>		SHEET 2 OF 13 SHEETS							
DATE		DESCRIPTION		BY									
		REVISIONS											





INSET
1"=10'

USE INSET ON SHEET 4

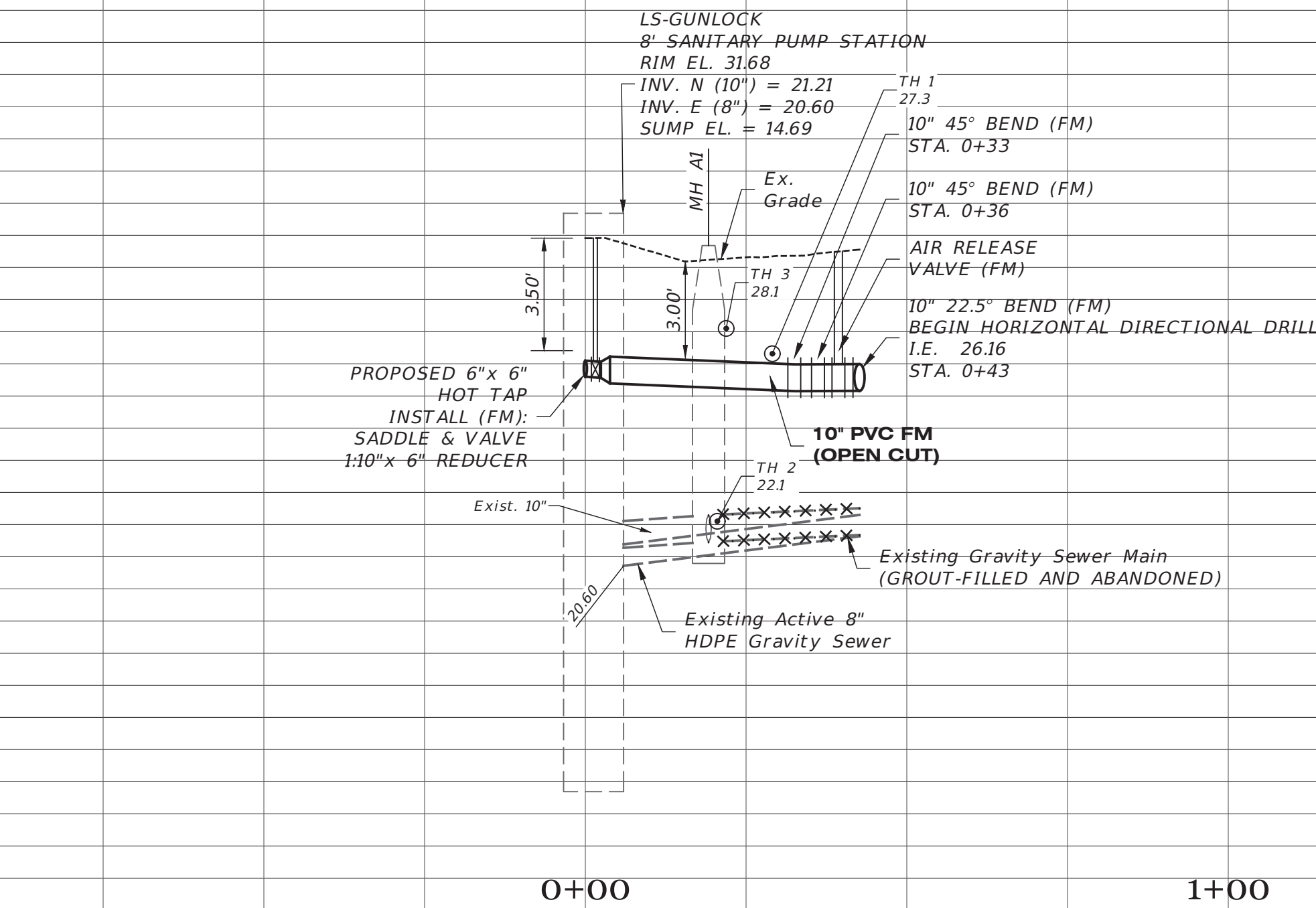
OPEN CUT 40 LF± 10" PVC FM
OPEN CUT STA. 0+00
BASELINE OF FM CONSTRUCTION
STA. 112+15.31 (3.16' RT)

HOT TAP EXISTING 6" DIP FORCE MAIN
USE INSET ON SHEET

INSTALL (FM)
1-6" MJ PLUG
ON EXISTING FM
USE INSET THIS
SHEET

HDD (FM)
469 LF± 10"
CERTA-LOK PVC

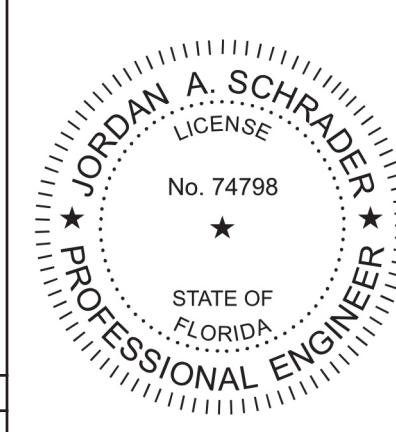
BASELINE OF
FORCE MAIN CONSTRUCTION



SCALE: 1" = 20' HORIZONTAL
1" = 4' VERTICAL

IDLEWILD AVENUE TEST HOLE DATA											
Test Hole	UAO	Type	Quantity	Size (in.)	Material	Ground Cover	Ground Elevation (ft.)	Depth to Top (ft.)	Utility Elevation (ft.)	Northing (ft.)	Easting (ft.)
TH 1	Frontier	Telephone	2	4	PVC	NG	30.245	2.93	27.315	1333657.852	494819.223
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ALL UTILITIES HAVE BEEN SHOWN FROM THE MOST RELIABLE INFORMATION AVAILABLE. PRIOR TO DRILLING PIPE, CONTRACTOR SHALL LOCATE ALL CROSSING UTILITIES OR UTILITIES IN CLOSE PROXIMITY VIA VACUUM OR CONVENTIONAL EXCAVATION TO VERIFY ACTUAL HORIZONTAL AND VERTICAL LOCATION.

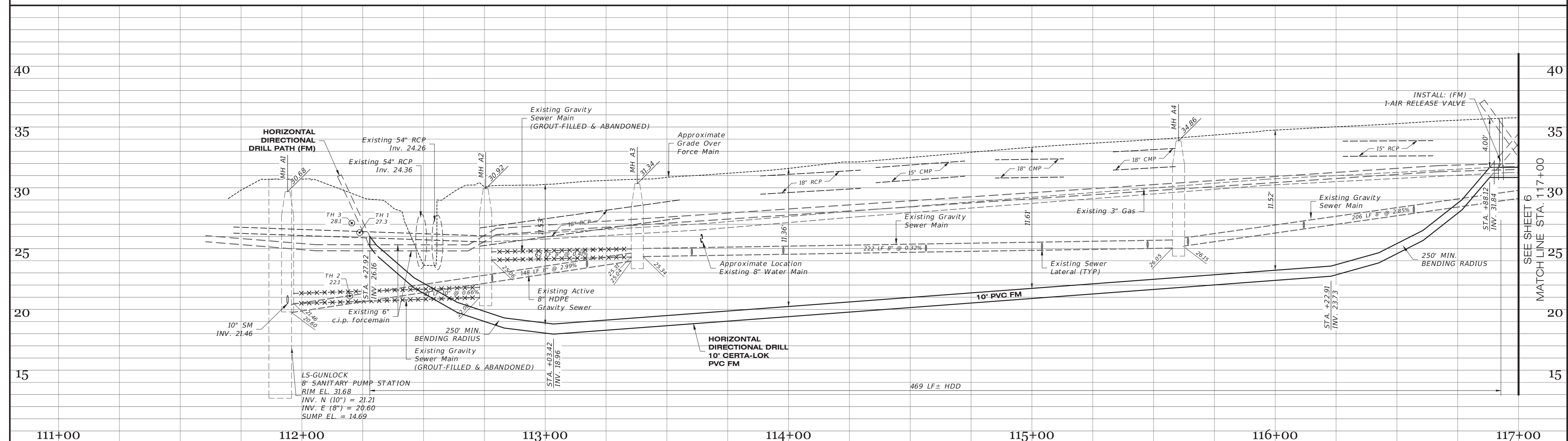
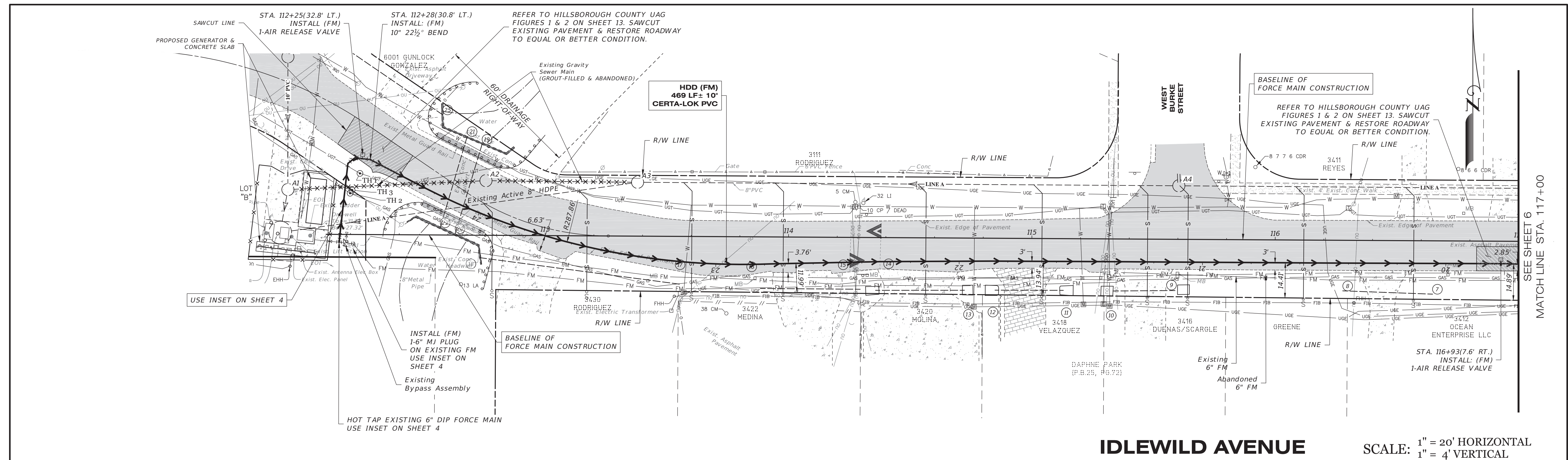


Clearview
LAND DESIGN, P.L.
Registered Business Number: RY288g8
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Office: 813-223-3919 Fax: 813-223-3975

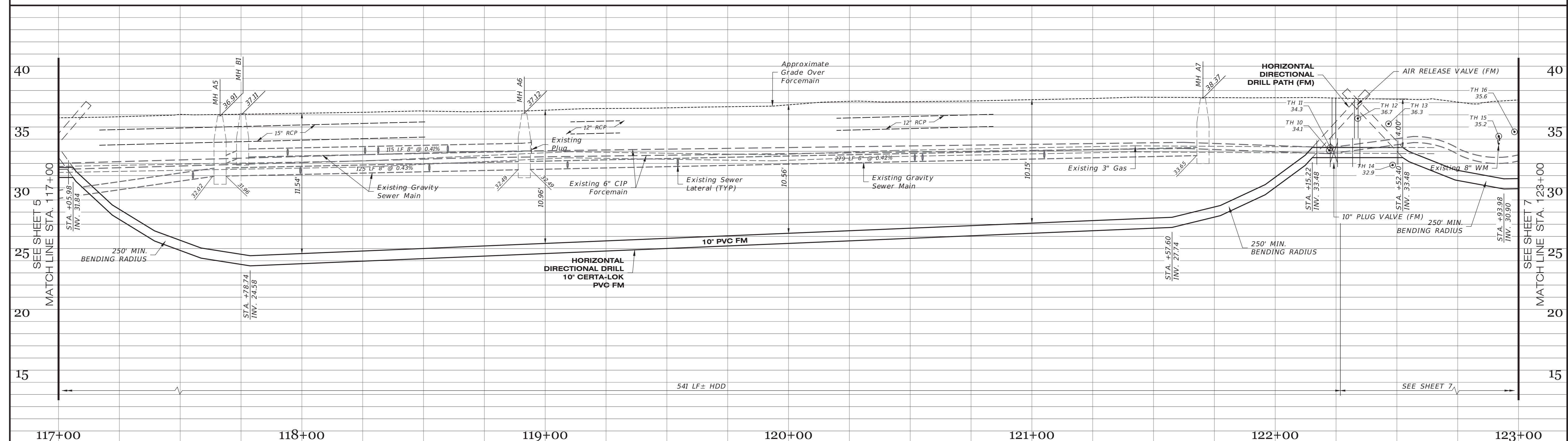
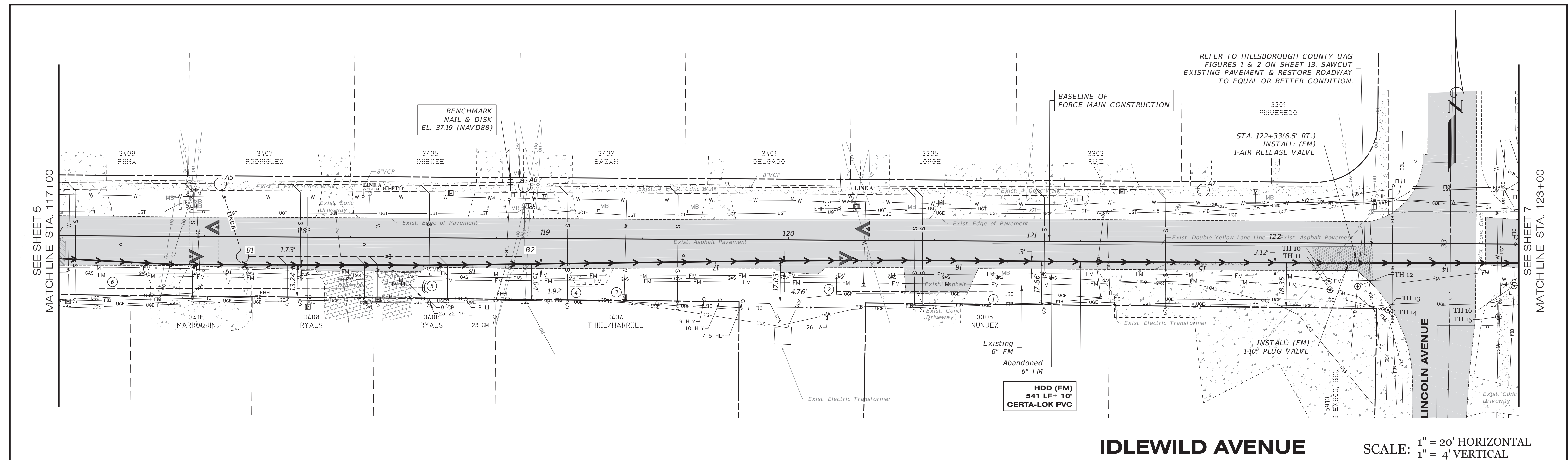
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seal. Signature must be verified on any electronic copies.

DATE: 08/18/2026
JORDAN A SCHRADER, P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

FORCE MAIN PLAN & PROFILE			
JOB NO. COT-GUN-001	GUNLOCK FORCE MAIN REPLACEMENT		
DESIGN MS	CITY OF TAMPA		
DRAWN MS	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.85 Feet		
DATE 08-14-2026	SHEET 4 OF 13 SHEETS		
FILE RP06			



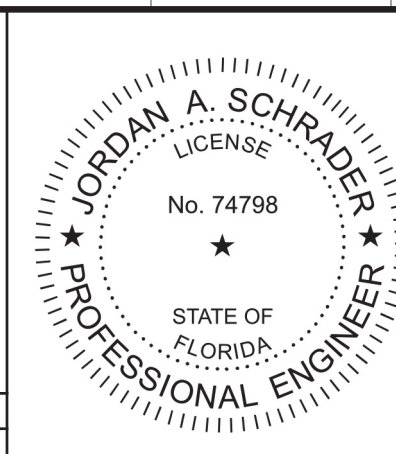
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DRAWN MS	PREPARED FOR:	CITY OF TAMPA
DATE 08-14-2026	Elevations based on North American Vertical Datum +988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.85 Feet	
FILE RPO1	SHEET 5 OF 13 SHEETS	



IDLEWILD AVENUE TEST HOLE DATA											
Test Hole	UAO	Type	Quantity	Size (in.)	Material	Ground Cover	Ground Elevation (ft.)	Depth to Top (ft.)	Utility Elevation (ft.)	Northing (ft.)	Easting (ft.)
TH 10	Hills. Co.	Forcemain	1	6	Cast Iron	NG	38.240	4.16	34.080	1333611.108	495817.431
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TH 14	Frontier	Fiber Optic	1	1.5	Polyethylene	NG	38.466	5.60	32.866	1333598.330	495843.404
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TH 16	Frontier	Fiber Optic	1	2	Polyethylene	NG	38.170	2.57	35.600	1333609.280	495893.535

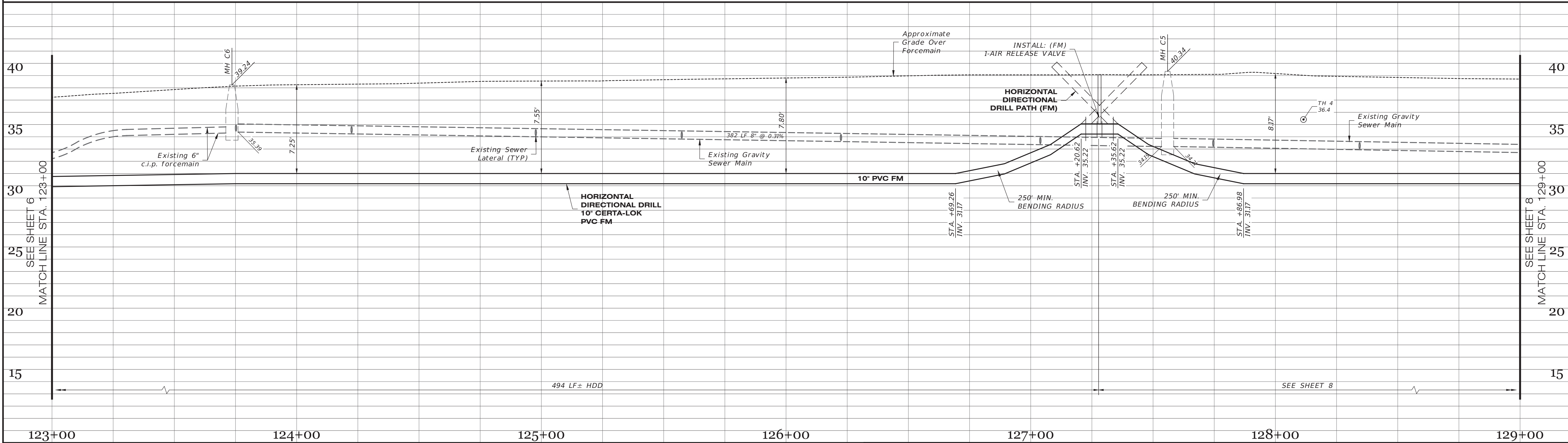
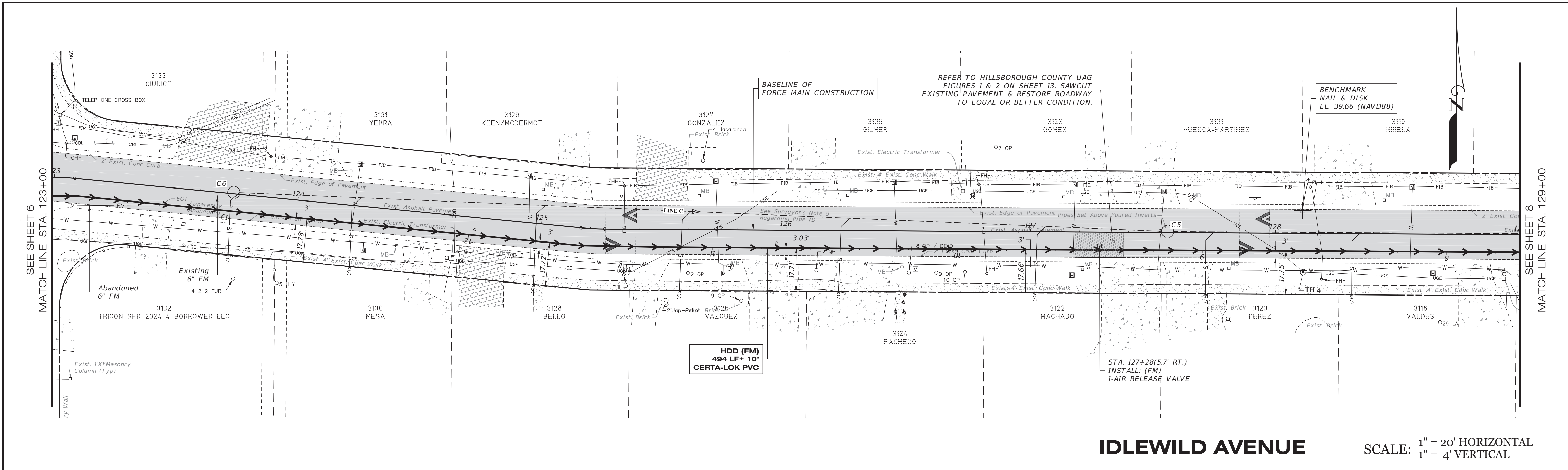
ALL UTILITIES HAVE BEEN SHOWN FROM THE MOST RELIABLE INFORMATION AVAILABLE. PRIOR TO DRILLING PIPE, CONTRACTOR SHALL LOCATE ALL CROSSING UTILITIES OR UTILITIES IN CLOSE PROXIMITY VIA VACUUM OR CONVENTIONAL EXCAVATION TO VERIFY ACTUAL HORIZONTAL AND VERTICAL LOCATION.

REVISIONS					
DATE		DESCRIPTION			BY



The logo for Clearview Land Design, P.L. features a stylized icon of a rolled-up document or blueprint on the left. To the right of the icon, the company name "Clearview" is written in a large, serif font, with "LAND DESIGN, P.L." in a smaller, sans-serif font underneath. Below the company name, the contact information is listed: "Registered Business Number: RY28858", "3010 W Azeale St., Suite 150, Tampa, Florida 33609", "Office: 813-223-3919", and "Fax: 813-223-3975". At the bottom of the logo area, a note states: "This item has been digitally signed and sealed by JORDAN A. SCHRADER, P.E. on the date adjacent to the seal. Signature must be verified on any electronic copies." Below this note, the date "08/18/2026" is printed, followed by the signature "JORDAN A. SCHRADER, P.E. NO. 74798" and the title "FLORIDA PROFESSIONAL ENGINEER" in all caps.

FORCE MAIN PLAN & PROFILE	
JOB NO. COT-GUN-001	GUNLOCK FORCE MAIN REPLACEMENT
DESIGN MS	
DRAWN MS	PREPARED FOR: CITY OF TAMPA
DATE 08-14-2026	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = $+0.65$ Feet
FILE RP02	SHEET 6 OF 13 SHEETS



IDLEWILD AVENUE TEST HOLE DATA											
Test Hole	UAO	Type	Quantity	Size (in.)	Material	Ground Cover	Ground Elevation (ft.)	Depth to Top (ft.)	Utility Elevation (ft.)	Northing (ft.)	Easting (ft.)
TH 4	TECO	Electric	1	2	PVC	NG	40.009	3.60	36.409	1333587.511	496405.689

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DATE: _____ DESCRIPTION: _____ BY: _____

REVISIONS

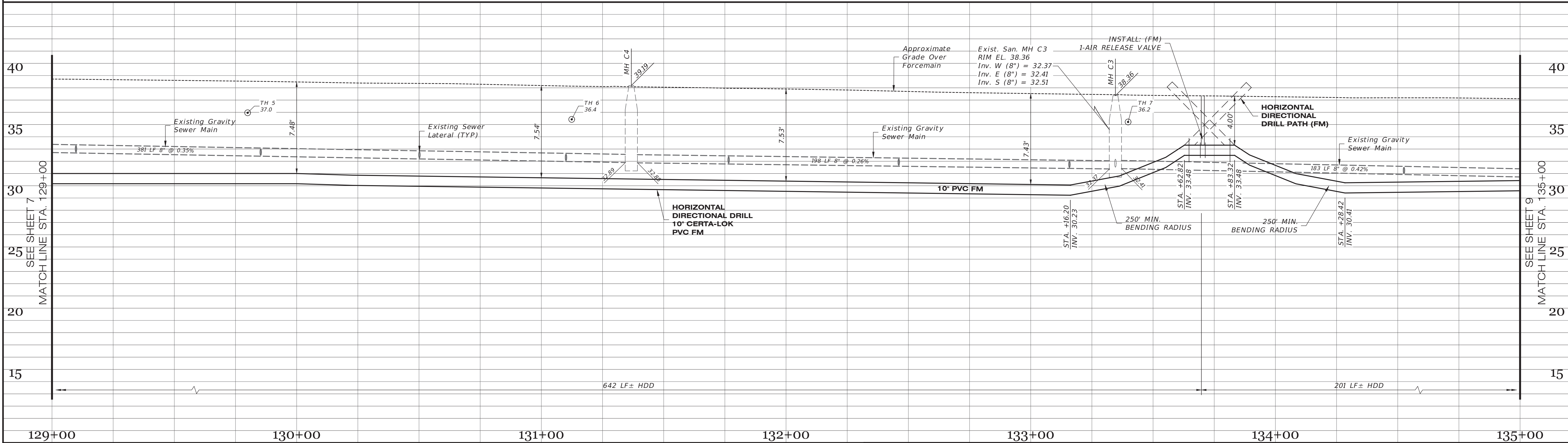
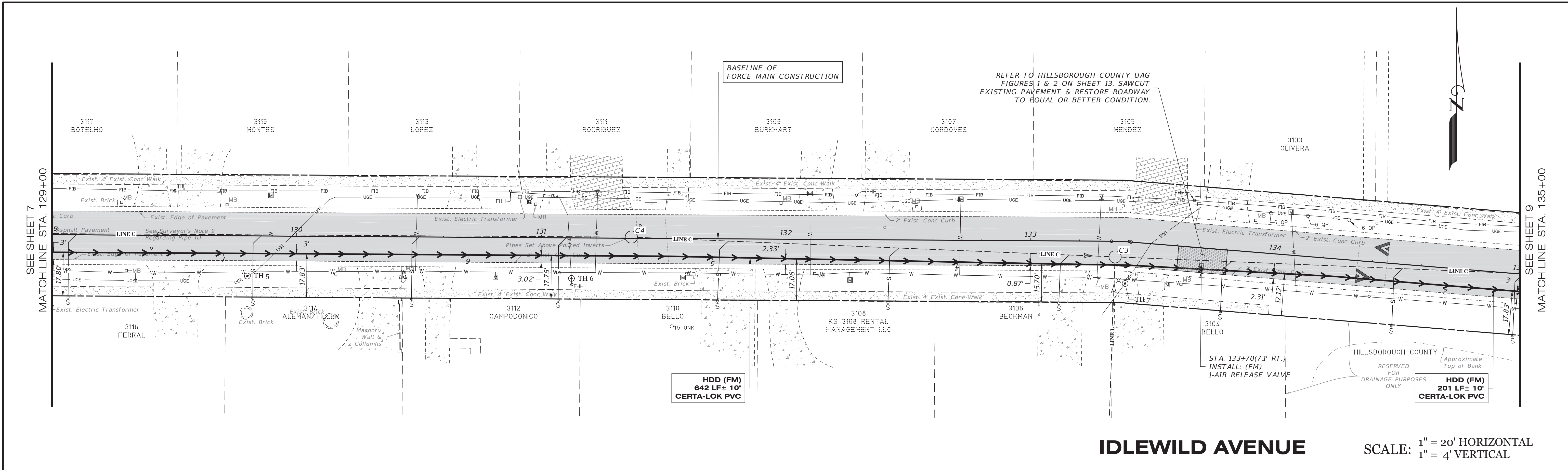
JORDAN A. SCHRADER
LICENSE
No. 74798
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Clearview
LAND DESIGN, P.L.
Registered Business Number: RY28858
3010 W Azeele St., Suite 150, Tampa, Florida 33609
Office: 813-223-3919 Fax: 813-223-3975

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JORDAN A SCHRADER, P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

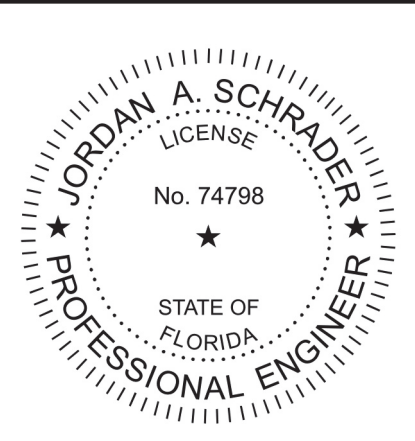
FORCE MAIN PLAN & PROFILE			
JOB NO. COT-GUN-001		GUNLOCK FORCE MAIN REPLACEMENT	
DESIGN MS	DRAWN MS	PREPARED FOR CITY OF TAMPA	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.85 Feet
DATE 08-14-2026	FILE RP03	SHEET 7 OF 13 SHEETS	



IDLEWILD AVENUE TEST HOLE DATA									
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TH 5	TECO	Electric	1	2	PVC	NG	39.448	2.49	36.958
TH 6	Frontier	Fiber Optic	1	1.25	Polyethylene	NG	39.490	3.07	36.420
TH 7	TECO	Electric	1	4	PVC	NG	38.660	2.45	36.210

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DATE	DESCRIPTION	BY
	REVISIONS	



Clearview

LAND DESIGN, P.L.

Registered Business Number: RY28858
3010 W Azeale St., Suite 150, Tampa, Florida 33609
Office: 813-223-3919 Fax: 813-223-3975

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DATE: 08/18/2026

JORDAN A SCHRADER, P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

JOB NO.
COT-GUN-001

DESIGN
MS

DRAWN
MS

DATE
08-14-2026

FILE
RP04

GUNLOCK FORCE MAIN
REPLACEMENT

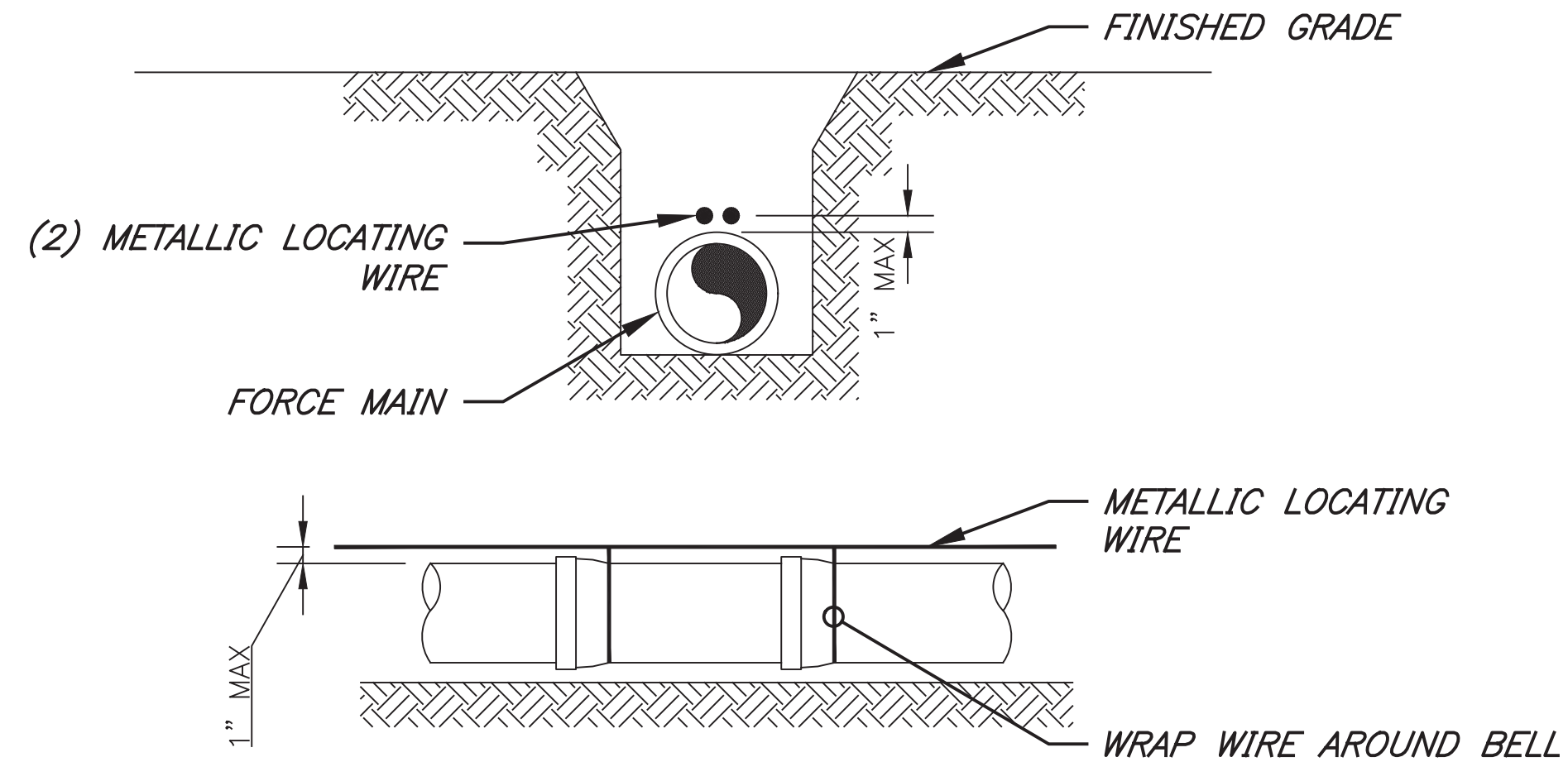
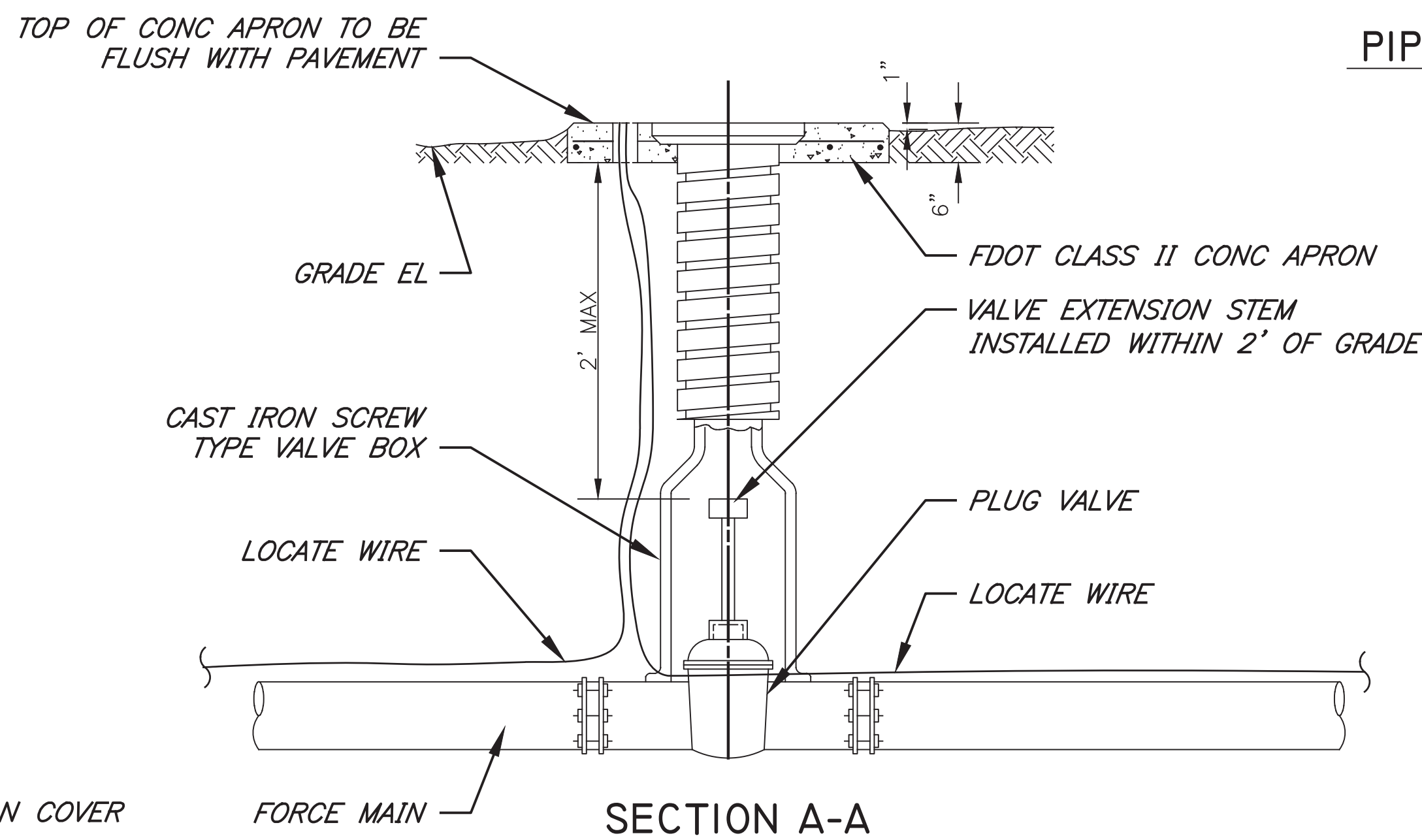
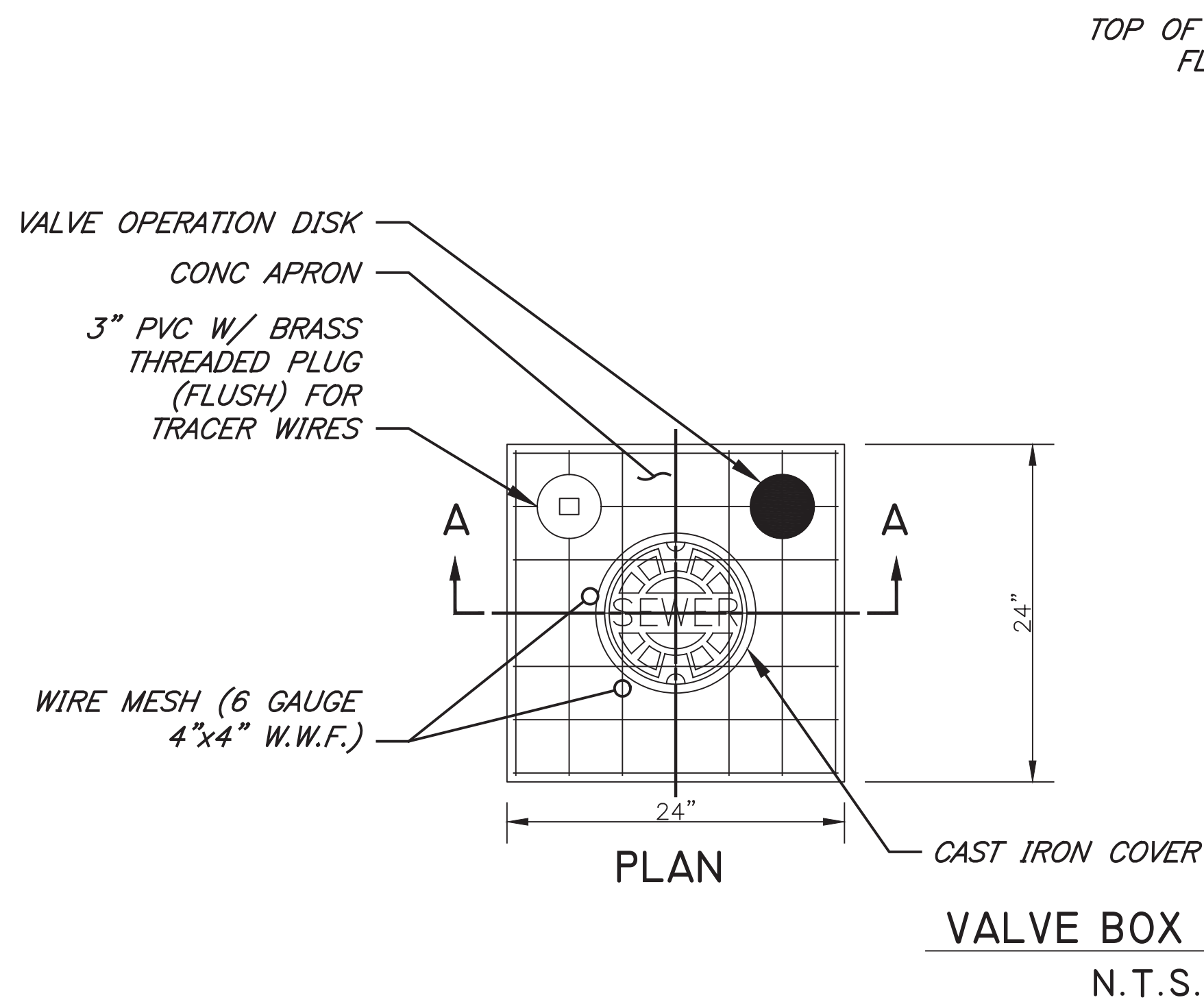
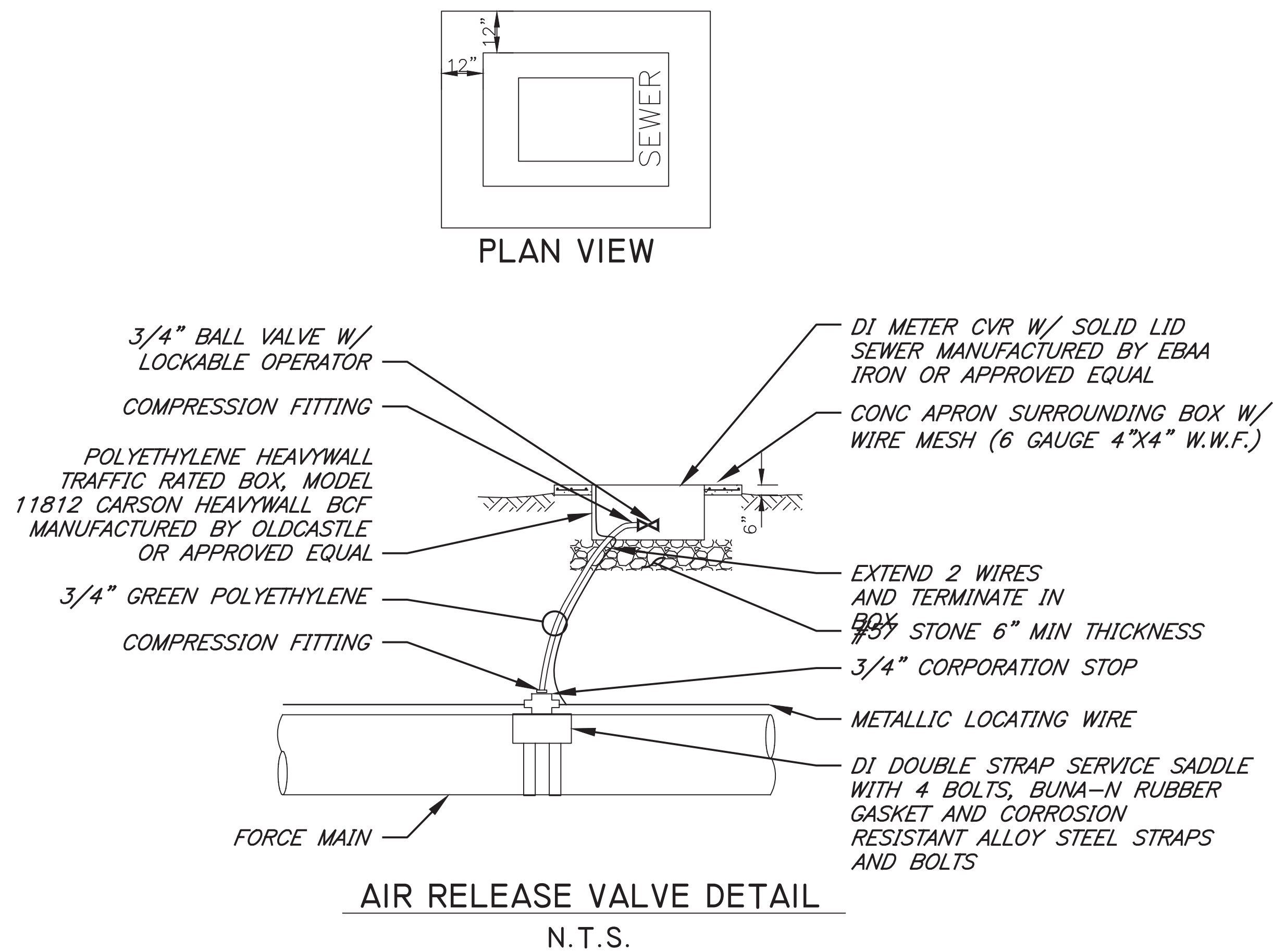
CITY OF TAMPA

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.85 Feet

FORCE MAIN PLAN & PROFILE

SHEET 8 OF 13 SHEETS

P:\CITY\TAMPA_GUNLOCK_FM\MASTER PLAN\DRAWING\CONDO\RP04.DWG-8 FORCE MAIN PLAN & PROFILE 2026/08/14 8:15 AM NOE BARRERA



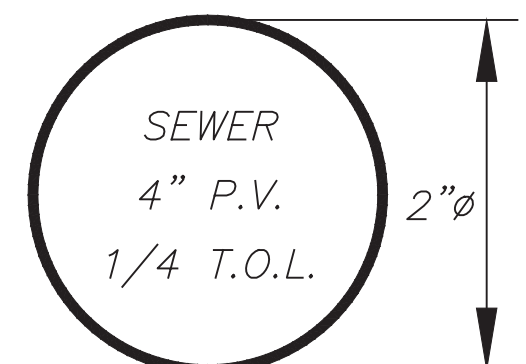
NOTES:

- PIPE SHALL REQUIRE 2 GREEN INSULATED METALLIC LOCATING WIRES CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE. USE DUCT TAPE AS NECESSARY TO HOLD WIRE DIRECTLY ON TOP OF PIPE.
- DIRECT BURY PIPE SHALL HAVE (2) 12 GAUGE INSULATED SOLID COPPER WIRES. DIRECTIONAL DRILLED PIPE SHALL HAVE (2) 8 GAUGE INSULATED SOLID COPPER WIRES OR (2) 10 GAUGE INSULATED COPPER CLAD STEEL WIRES. FOR DIRECTIONAL DRILLED HDPE PIPE A 1" CONDUIT MAY BE PULLED BACK WITH THE LOCATING WIRES TO EASE INSTALLATION AND TO PREVENT THE WIRES FROM BREAKING.
- WIRE INSULATION MUST BE SUITABLE FOR BURIED SERVICE. HDPE OR HMWPE ARE ACCEPTABLE INSULATION MATERIALS. NYLON INSULATION IS NOT ACCEPTABLE.
- WIRES MUST BE SPLICED TOGETHER WITH WIRE CONNECTORS SUITABLE FOR BURIED SERVICE. CONNECTORS SHALL BE CORROSION AND MOISTURE PROOF SUCH AS DBR KIT BY 3M, SNAKEBITE BY COPPERHEAD INDUSTRIES OR EQUAL. TWISTING THE WIRES AND SEALING WITH ELECTRICAL TAPE ALONE IS NOT ACCEPTABLE.
- ALL TRACER WIRES MUST PASS A CONTINUITY TEST IN THE PRESENCE OF A CITY INSPECTOR. NO PIPE WILL BE ACCEPTED BY THE CITY UNTIL A CONTINUITY TEST PASSES.
- LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND AIR RELEASE VALVE. WIRE SHALL BE CAPABLE OF EXTENDING 24" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.

IMPORTANT – FOR EACH OPERABLE VALVE:

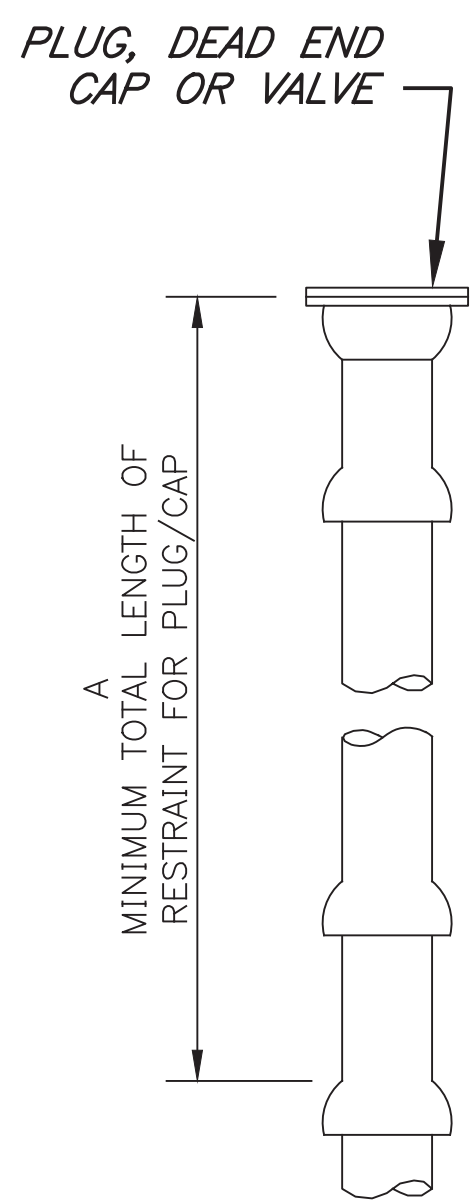
PROVIDE A BRASS IDENTIFICATION TAG ANCHORED TO THE CONCRETE APRON THAT IS A MINIMUM 2" IN DIAMETER AND 1/8-INCH THICK. THE TAG SHALL BE ENGRAVED WITH "SEWER", SIZE OF VALVE, TYPE OF VALVE, AND DIRECTION AND NUMBER OF TURNS TO OPEN.

FOR EXAMPLE, A 4-INCH PLUG VALVE ON A WASTEWATER FORCE MAIN THAT REQUIRES 1/4 TURNS TO THE LEFT(COUNTERCLOCKWISE) TO BE FULLY OPEN WOULD REQUIRE THE FOLLOWING ON AN IDENTIFICATION TAG:



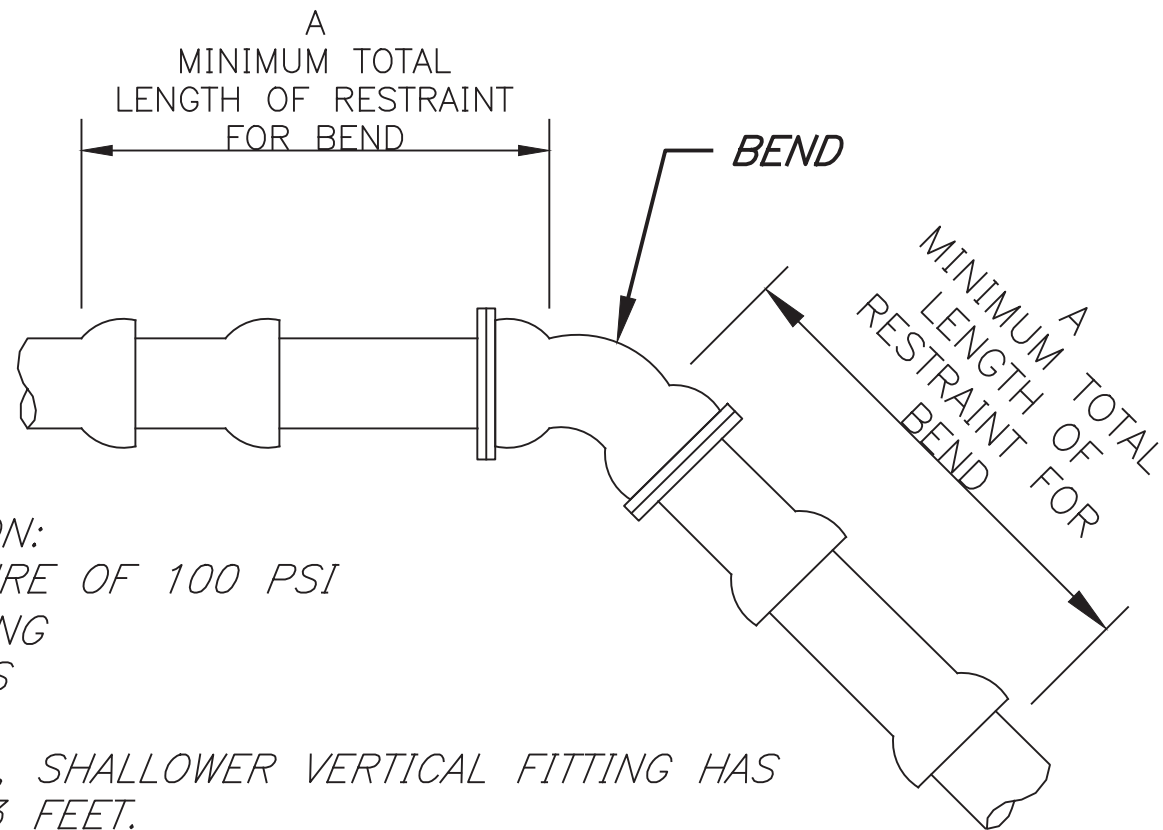
VALVE OPERATION DISK
N.T.S.

			Clearview LAND DESIGN, P.L. Registered Business Number: RY288g8 3010 W Azeele St., Suite 150, Tampa, Florida 33609 Office: 813-223-3919 Fax: 813-223-3975 This item has been digitally signed and sealed by JORDAN A. SCHRADER, P.E. on the date adjacent to the seal. Signature must be verified on any electronic copies. DATE: 08/18/2026 JORDAN A SCHRADER, P.E. NO. 74798 FLORIDA PROFESSIONAL ENGINEER		
			FORCE MAIN DETAILS JOB NO. COT-GUN-001 DESIGN MS DRAWN MS DATE 08-14-2026 FILE WSD		
			GUNLOCK FORCE MAIN REPLACEMENT PREPARED FOR: CITY OF TAMPA Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.85 Feet		
			SHEET 10 OF 13 SHEETS		



NOTES:

- THESE TABLES ARE BASED ON:
a. MAXIMUM TEST PRESSURE OF 100 PSI
b. CLASS "C" PIPE BEDDING
c. POOR SOIL CONDITIONS
d. PVC PIPE
e. FOR VERTICAL OFFSETS, SHALLOWER VERTICAL FITTING HAS A MINIMUM COVER OF 3 FEET.
- RESTRAINING DEVICES FOR PVC PIPE SHALL BE BY MEGALUG (SERIES 2000 PV) OR EQUAL, MEETING ASTM F1674.
- ANY ADDITIONAL FITTINGS WITHIN THE RESTRAINED SECTION SHALL BE RESTRAINED ACCORDINGLY.
- ONE STANDARD LENGTH OF PVC PIPE (20 FEET) SHALL BE LAID ON EITHER SIDE OF THE FITTING WHERE POSSIBLE.



HORIZONTAL OFFSET:

FITTING TYPE	RESTRAIN "A" (LF*)								
	4"	6"	8"	10"	12"	16"	18"	20"	24"
11-1/4°	1*	2*	2*	2*	3*	3*	3*	4*	4*
22-1/2°	2*	3*	3*	4*	5*	6*	6*	7*	8*
45°	4*	5*	7*	8*	9*	11*	13*	14*	16*
90°	9*	12*	15*	18*	21	27	29	32	37
PLUG / CAP / ISOLATION VALVE	26	36	47	56	66	85	94	102	119

A = MINIMUM FOOTAGE OF PIPE TO BE RESTRAINED

* MINIMUM ONE PIPE JOINT UPSTREAM AND DOWNSTREAM OF EACH FITTING SHALL BE RESTRAINED

VERTICAL OFFSET:

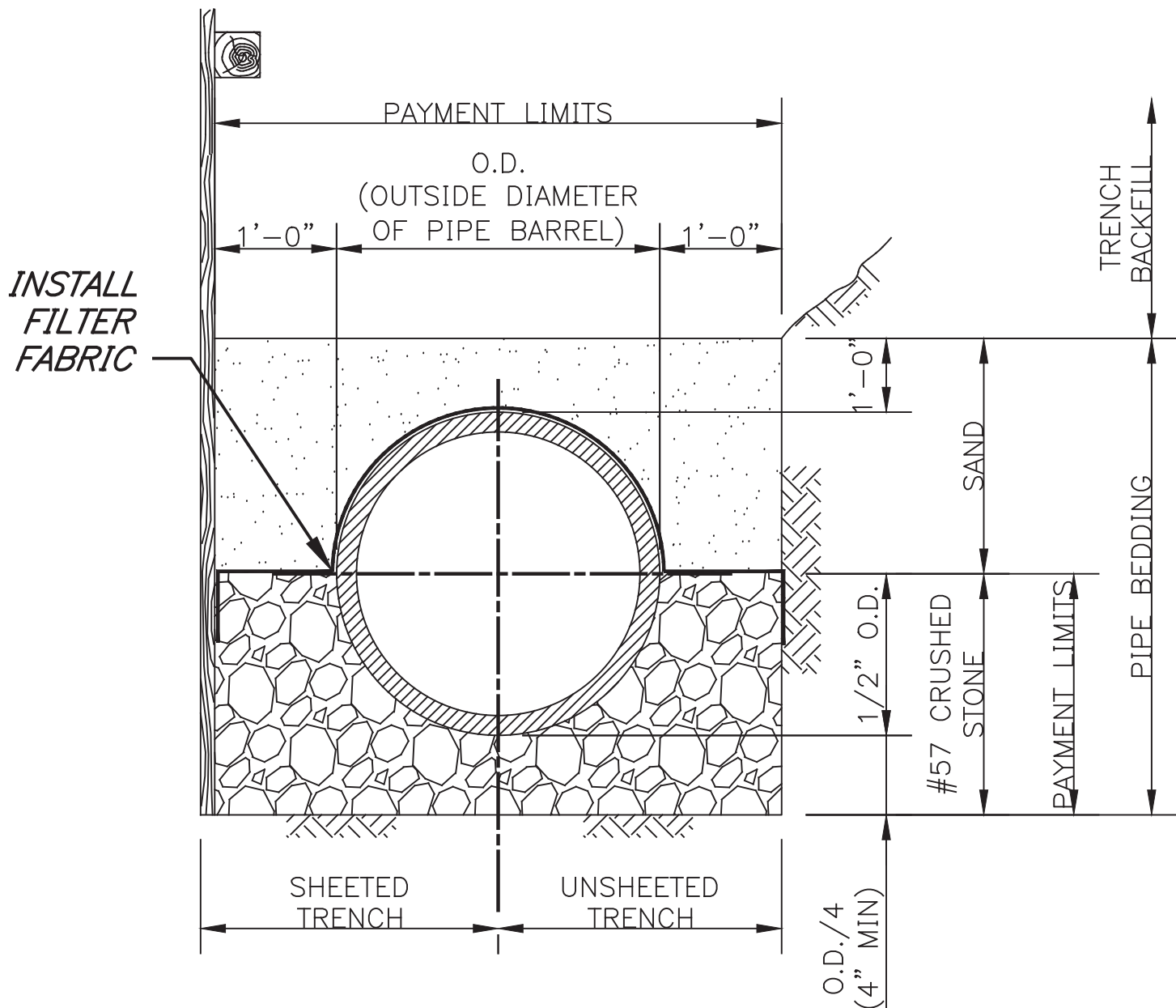
FITTING TYPE	RESTRAIN "A" (LF*)								
	4"	6"	8"	10"	12"	16"	18"	20"	24"
11-1/4°	3*	4*	5*	6*	7*	9*	10*	11*	12*
22-1/2°	5*	8*	10*	12*	14*	17*	19*	21	24
45°	11*	15*	20	23	28	35	39	43	50

A = MINIMUM FOOTAGE OF PIPE TO BE RESTRAINED

* MINIMUM ONE PIPE JOINT UPSTREAM AND DOWNSTREAM OF EACH FITTING SHALL BE RESTRAINED

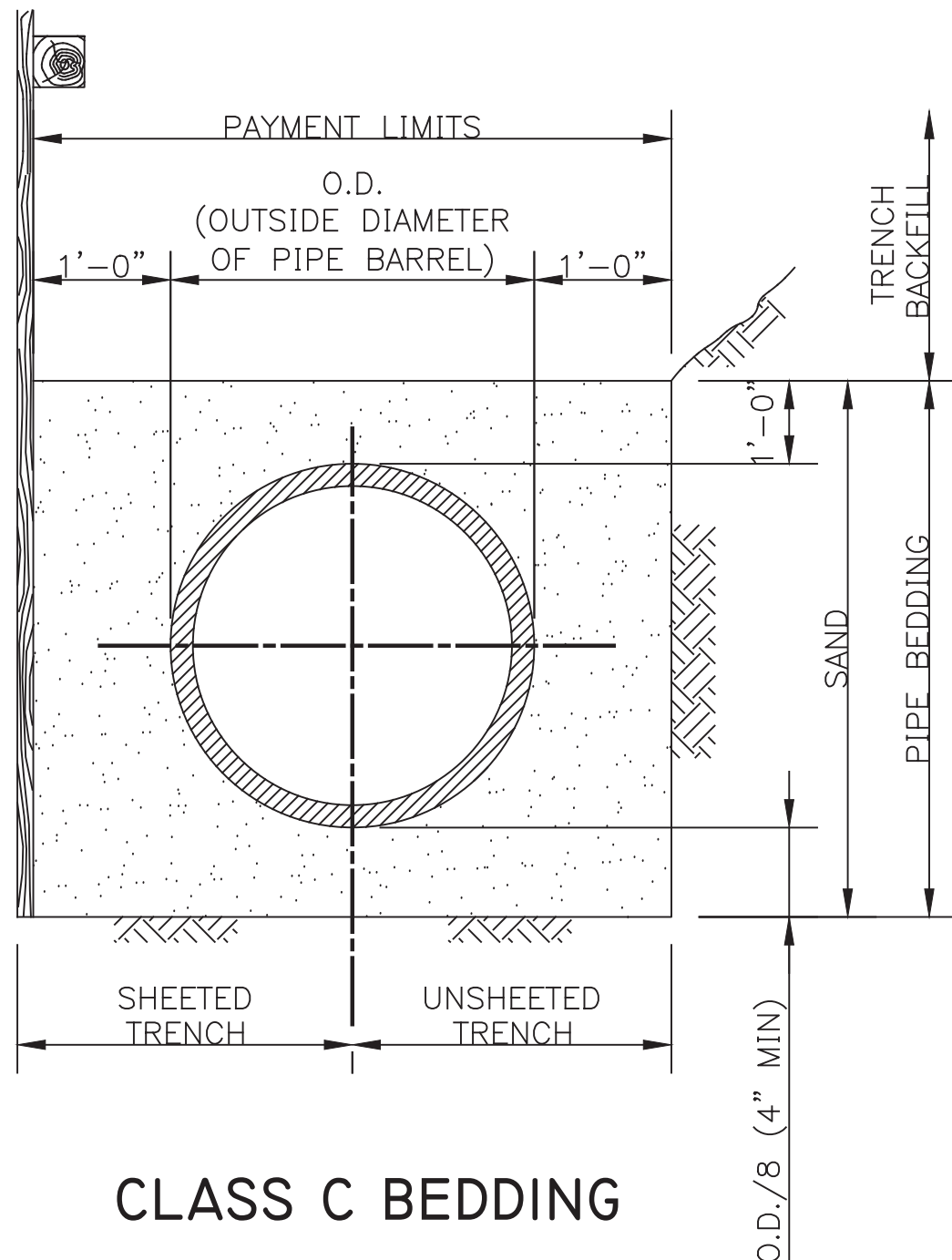
FITTING RESTRAINT DETAIL

N.T.S.



CLASS B BEDDING

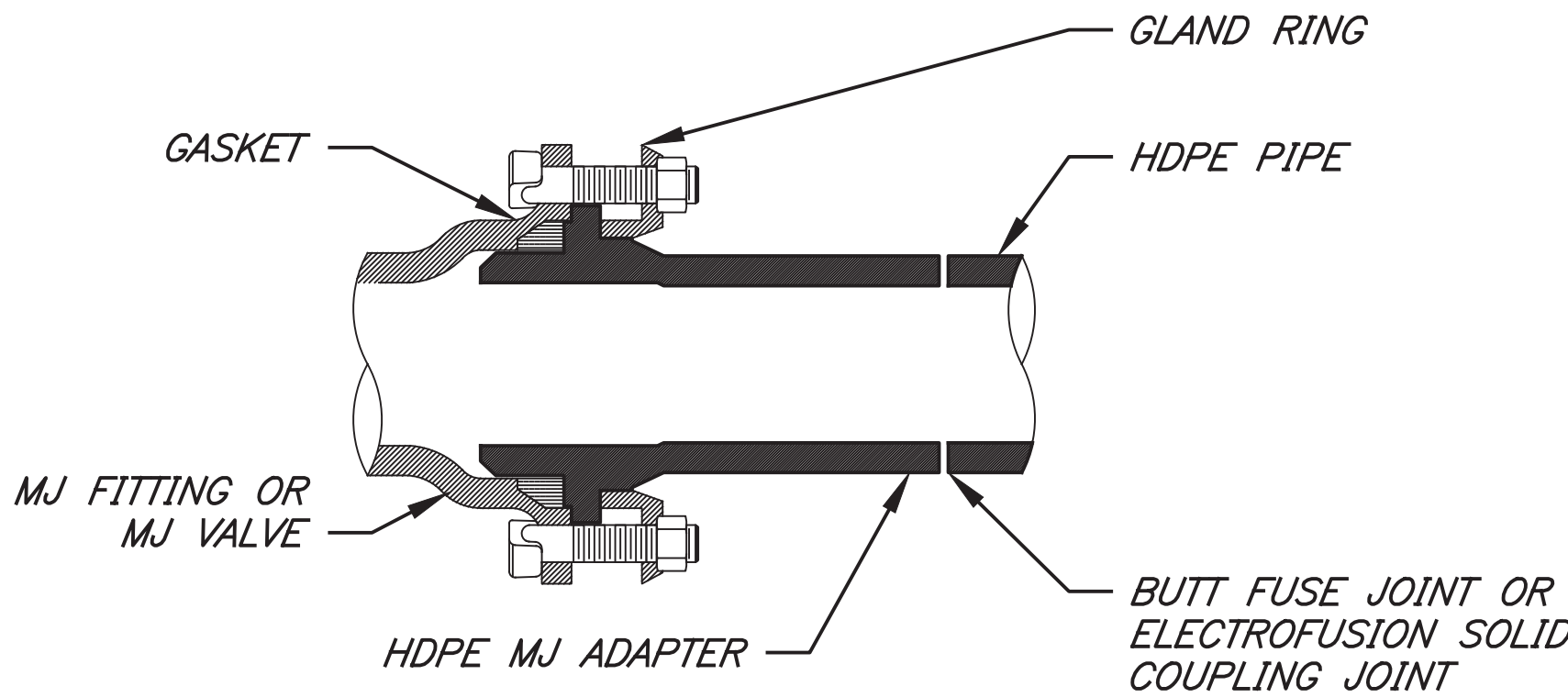
(ONLY ALLOWED WITH CITY INSPECTOR APPROVAL)



CLASS C BEDDING

PIPE BEDDING DETAILS

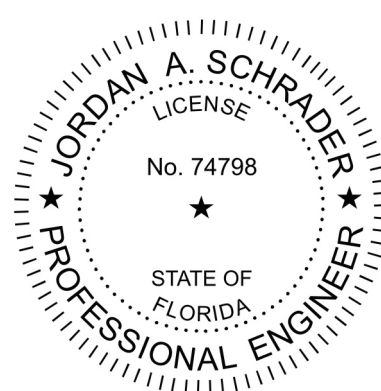
N.T.S.

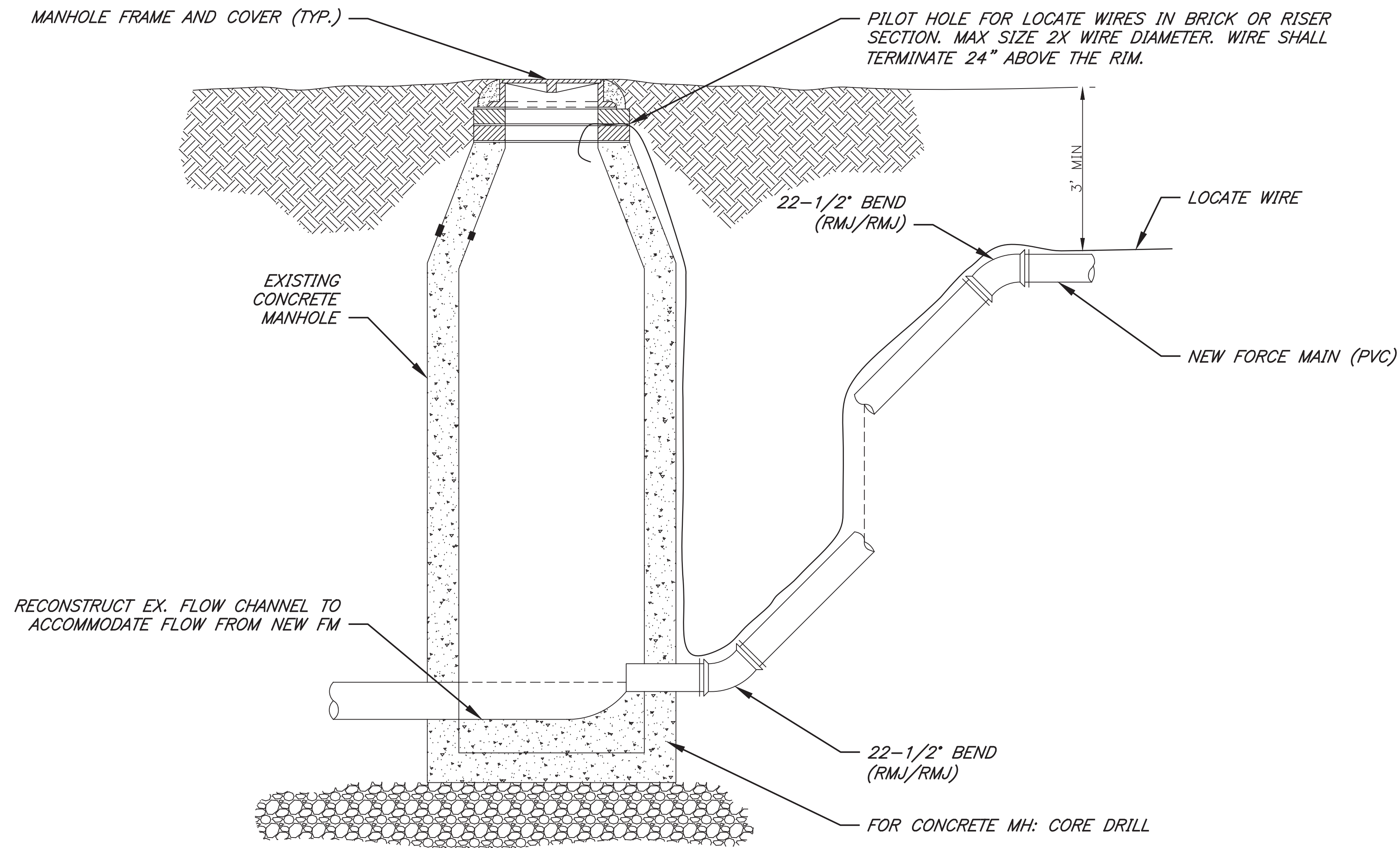


NOTE:
SCHEMATIC SHOWN FOR STANDARD MJ FITTING AND PLUG VALVES

HDPE TRANSITION

N.T.S.

						 Clearview LAND DESIGN, P.L. Registered Business Number: RY288g8 3010 W Azele St., Suite 150, Tampa, Florida 33609 Office: 813-223-3919 Fax: 813-223-3975		FORCE MAIN DETAILS			
						JOB NO. COT-GUN-001 DESIGN MS DRAWN MS DATE 08-14-2026 FILE WSD		GUNLOCK FORCE MAIN REPLACEMENT CITY OF TAMPA Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.85 Feet			
				This item has been digitally signed and sealed by JORDAN A. SCHRADER, P.E. on the date adjacent to the seal. Signature must be verified on any electronic copies. DATE: 08/18/2026 JORDAN A. SCHRADER, P.E. NO. 74798 FLORIDA PROFESSIONAL ENGINEER		SHEET 11 OF 13 SHEETS					



FORCE MAIN CONNECTION TO EXISTING MANHOLE DI

N.T.S.

- NOTES:
1. AFTER FORCEMAIN CONNECTION INTO MANHOLE DI, CONTRACTOR SHALL ALLOW (5) DAYS FOR CITY'S MANHOLE REHABILITATION CONTRACTOR TO RESTORE THE CORED OPENING & MANHOLE BENCH PRIOR TO PLACING PROPOSED FORCEMAIN INTO SERVICE.
 2. MANHOLE CONNECTION SHOULD BE WATER-TIGHT AND SHALL BE MADE WITH A SANDED MANHOLE ADAPTER. GROUT ANNULUS WITH NON-SHRINK GROUT.
 3. CONTRACTOR TO PROVIDE A MINIMUM OF (2) WEEKS ADVANCE NOTICE PRIOR TO WORK.

			FORCE MAIN DETAILS	
			JOB NO. COT-GUN-001	GUNLOCK FORCE MAIN REPLACEMENT
			DESIGN MS	
			DRAWN MS	PREPARED FOR: CITY OF TAMPA
			DATE 08-14-2026	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.85 Feet
			FILE WSD	SHEET 12 OF 13 SHEETS

DATE

DESCRIPTION

BY

REVISIONS

JORDAN A. SCHRADER
LICENSE
No. 74798
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Clearview
LAND DESIGN, P.L.

Registered Business Number: RY288g8
3010 W Azeede St., Suite 150, Tampa, Florida 33609
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JORDAN A SCHRADER, P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

The diagram illustrates a trench cross-section with the following dimensions and features:

- Top Surface:** A horizontal line representing the ground surface, labeled "MILLED AND RESURFACED PAVEMENT AREA (100' OR 200') SEE BELOW".
- Surface Replacement:** A rectangular area on the surface, labeled "SURFACE REPLACEMENT (SAW CUT)".
- Proposed Asphalt Restoration:** A rectangular area below the surface replacement, labeled "PROPOSED ASPHALT RESTORATION".
- Proposed Base:** A trapezoidal area below the asphalt restoration, labeled "PROPOSED BASE".
- Dimensions:**
 - $W + 4'$: Width of the surface replacement area.
 - $2T$ (12" MIN.): Vertical distance from the bottom of the asphalt restoration to the top of the base.
 - $18"$: Slope angle of the base.
 - W : Width of the top of the trench.
 - $12"$: Radius of the circular object at the bottom of the trench.
 - D : Total depth of the trench.
 - $W = 2D$ (MAX.): Maximum width of the trench at the bottom.
- Notes:**
 - "MATERIAL SHALL BE OF THE A-1, LOCATION AS PER AASHTO, UNLESS COUNTY ENGINEER."
 - "CONSTRUCTED IN 12" LAYERS WITH MECHANICAL OF THE TRENCH AND UP TO THE PARTICULAR ATTENTION MUST BE"
- Scale:** "NOT TO SCALE"

THE BACKFILL AND BEDDING MATERIAL SHALL BE OF THE A-1, A-2, A-3 OR A-2-4 CLASSIFICATION AS PER AASHTO, UNLESS OTHERWISE APPROVED BY THE COUNTY ENGINEER.

THE BACKFILL SHALL BE COMPACTED IN 12" LAYERS WITH MECHANICAL TAMPERS TO THE FULL WIDTH OF THE TRENCH AND UP TO THE BOTTOM OF THE ROADWAY BASE. PARTICULAR ATTENTION MUST BE GIVEN TO THE ADEQUATE COMPACTION OF THE FILL BENEATH THE HAUNCHES OF THE PIPE. THE BACKFILL SHALL BE COMPACTED AS REQUIRED BY APPENDIX L TESTING SCHEDULE. ONE DENSITY TEST SHALL BE TAKEN AT THE END OF EACH PIPE. THE PIPE ENDS SHALL BE COVERED TO THE CROWN OF THE PIPE AND VENTED VERTICALLY THEREAFTER. A MINIMUM OF TWO COMPLETE SETS OF BACKFILL DENSITY TESTS ARE REQUIRED, FLOWABLE FILL IN ACCORDANCE WITH SECTION 121 OF THE F.D.O.T. STANDARD SPECIFICATIONS MAY BE SUBSTITUTED.

IF WELL POINTS ARE USED TO PROVIDE A DRY TRENCH FOR LAYING THE UTILITY, THEY SHALL REMAIN IN OPERATION UNTIL THE BACKFILL IS COMPLETE AND TESTED.

BASE, INSTALLED TO A THICKNESS OF TWO TIMES THE THICKNESS OF THE EXISTING BASE OR 12" WHICHEVER IS GREATER, SHALL BE INSTALLED IN 6" LIFTS. THE BASE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY OF THE MIXTURE. THE MINIMUM DENSITY SHALL BE 95% OF THE MAXIMUM DENSITY. IF A DENSITY TEST IS REQUIRED, NINE (9) INCHES OF SUPERPAVE ASPHALT INSTALLED IN THREE (3) INCH LIFTS MAY BE SUBSTITUTED.

THE SURFACE COURSE SHALL BE F.O.D.T. SUPERPAVE AC WITH A THICKNESS EQUAL TO THE EXISTING OR 1-3/4", WHICHEVER IS GREATER. PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.

THE PATCHES SHALL BE PLACED IN SUCH A MANNER THAT THE PATCHES BE STRAIGHT EDGED AND PLACED ACROSS THE PATH, PARALLEL TO TRAFFIC FLOW AND EXTENDING TO UNDISTURBED PAVEMENT SHALL SHOW NO MORE THAN 1/4" IRREGULARITY. ANY IRREGULARITIES SHALL BE CORRECTED TO SUBSTANTIAL COMPLIANCE WITH F.O.D.T. SPECS.

THE PATCHES SHALL BE PLACED IN SUCH A MANNER THAT THE PATCHES BE STRAIGHT EDGED AND PLACED ACROSS THE PATH, PARALLEL TO TRAFFIC FLOW AND EXTENDING TO UNDISTURBED PAVEMENT SHALL SHOW NO MORE THAN 1/4" IRREGULARITY. ANY IRREGULARITIES SHALL BE CORRECTED TO SUBSTANTIAL COMPLIANCE WITH F.O.D.T. SPECS.

FOR ROADWAYS WITH SPEED LIMITS GREATER THAN 35 MPH OR LESS SPEED LIMIT OR 200 FEET FOR ROADWAYS WITH SPEED LIMITS GREATER THAN 35 MPH, THE ENTIRE WIDTH OF THE ROADWAY SHALL BE MILLED AND RESURFACED.

FOR ROADWAYS WITH SPEED LIMITS GREATER THAN 35 MPH, THE ENTIRE WIDTH OF THE ROADWAY SHALL BE MILLED AND RESURFACED.

DESIGN STANDARDS AND MATERIALS.

POSTED SPEED MPH	MILL AND RESURFACE CENTERED ON TRENCH
35 MPH OR LESS	100 FEET
> 35 MPH	200 FEET

REVISION DATE: 10/17	Utility Accomodation Guide and Rights-of-Way Use Procedures Manual	 Hillsborough County Florida	ROADWAY RESTORATION	APPENDIX K
			FIGURE 1	SHEET NO. 1 OF 5

ROADWAY
 SAWCUT JOINT
 MILL AND REPLACE EXIST. ASPHALT
 1 1/2" SUPERPAVE ASPHALT OR MATCH EXISTING (WHICHEVER IS GREATER)
 12" MIN.
 PROPOSED BASE
 18"
 W
 TOP OF TRENCH WIDTH
 12"
 D
 W=2D (MAX.)

OPTION 1
 N.T.S.

BACKFILL, BASE AND PAVEMENT REPLACEMENT SHALL BE THE SAME AS SHOWN FOR PERPENDICULAR CROSSINGS. ONE SET OF DENSITY TESTS IS REQUIRED EVERY 500 LINEAR FEET PER COMPACTED LAYER.

OPTION 1 THE PAVEMENT SHALL BE COMPLETELY REMOVED FROM THE TRAVEL LANE DISTURBED AND BE FULLY REPLACED. THE CENTER LONGITUDINAL JOINT SHALL BE SAWCUT.

OPTION 2 IN LIEU OF REMOVING THE ENTIRE PAVEMENT OF THE DISTURBED TRAVEL LANE, THE ENTIRE WIDTH OF ROADWAY MAY BE OVERLAYED THROUGHOUT THE ENTIRE LENGTH OF DISTURBANCE.

REVISION DATE: 10/17	Utility Accomodation Guide and Rights-of-Way Use Procedures Manual	 Hillsborough County Florida	ROADWAY RESTORATION	APPENDIX K
			FIGURE 2	SHEET NO. 2 OF 5

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